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TECHNICAL REPORT
DPG T67-104

CLIMATOLOGICAL REPORT NO. 3
DUGWAY VICINITY

BY

NEAL A. OPSTAD

DECEMBER 1966

USATECOM PROJECT NO. 5-5-9955-02

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METEOROLOGICAL ASPECTS OF CB PROGRAM

DUGWAY PROVING GROUND
DUGWAY, UTAH

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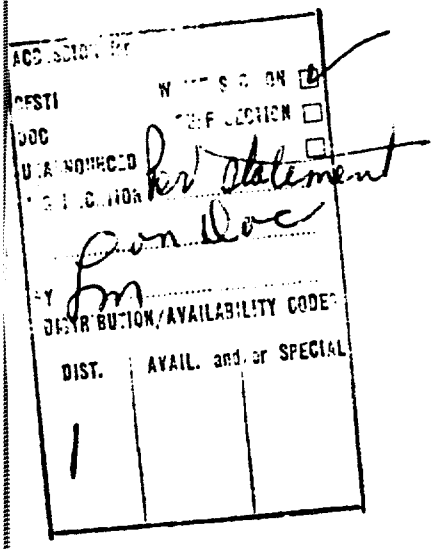

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METEOROLOGICAL DIVISION
TEST OPERATIONS DIRECTORATE
U.S. ARMY DUGWAY PROVING GROUND
DUGWAY, UTAH

ABSTRACT

The data contained in this document gives a brief description of the Dugway Proving Ground, Utah surrounding terrain and vegetation, and a summary of the various climatic elements. Climatological data were compiled from records maintained at the U. S. Air Force Weather Station, Dugway Proving Ground. Wind direction and speed were recorded at selected locations utilizing mobile meteorological stations. The data for the climatological report were recorded at varying time intervals from 1943 to 1965.

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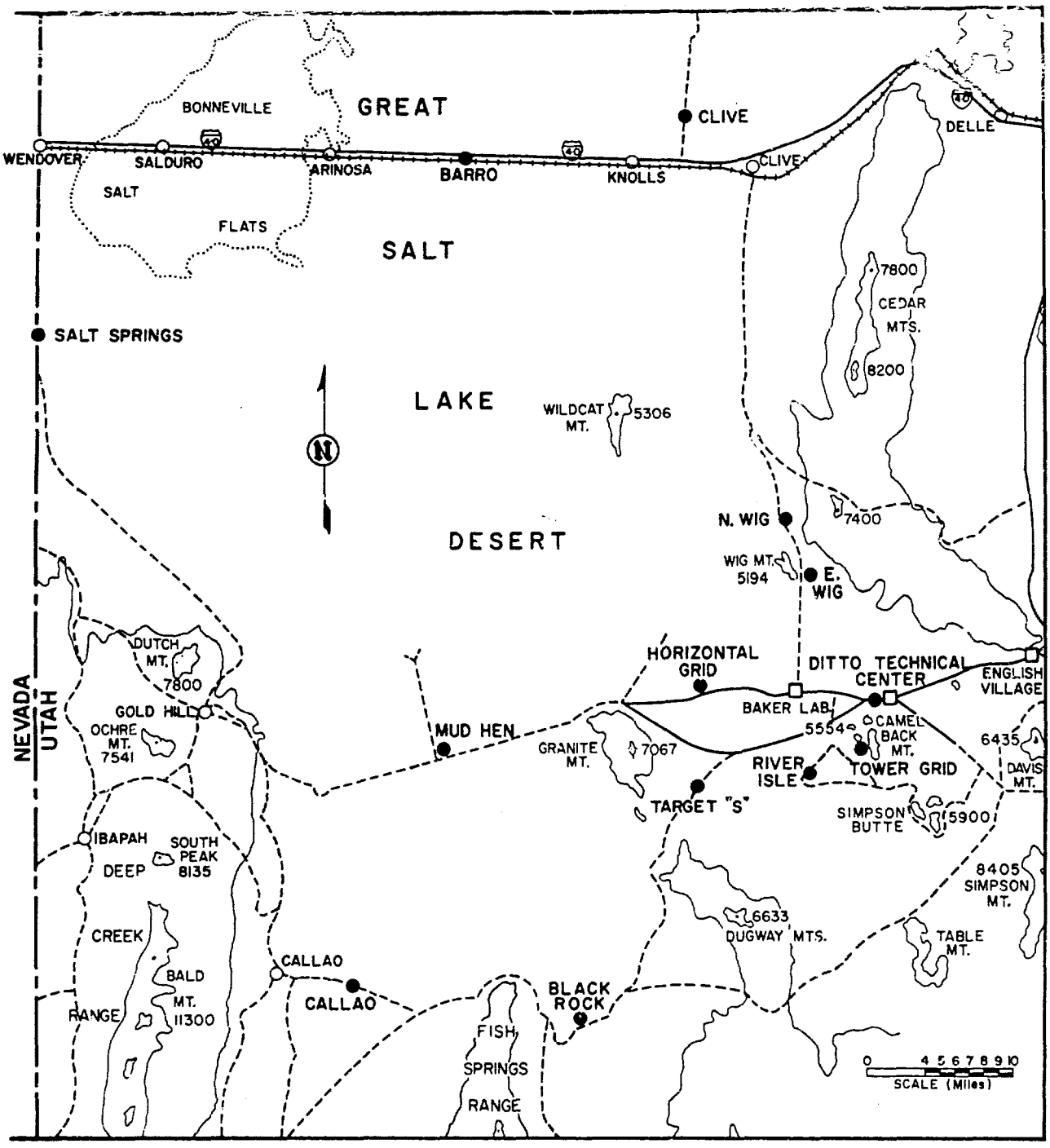
SECTION 1. INTRODUCTION

1.1 BACKGROUND

The area of climatological interest, comprising approximately 3000 square miles, is bounded on the west by the Utah-Nevada border, on the north by U.S. Highway 40, on the east by the Cedar Mountains and on the south by the Callao Road (about 60 miles south of Highway 40) which extends from the Deep Creek Range on the west to the Dugway Mountains on the east (see figure 1). The largest portion of this region is in the Great Salt Lake Desert, an area of salt flats and silty clay flats with virtually no vegetation, surrounding the Great Salt Lake. The remaining area is composed of mountains, hills, alluvial slopes, active and stabilized sand dunes, and salt flats. The sparse vegetation consists of Pickleweed, Greasewood, Shadescale, Gray Molly, Juniper, and lesser bushes and grasses.

The climatological data compiled in this report were recorded at the U.S. Air Force Weather Station located in Ditto Technical Center of Dugway Proving Ground, at a longitude of 113°00 W., a latitude of 40°10' N., and at an elevation of 4359 feet above sea level. The data on the climatic elements were recorded at varying time intervals between the years 1943 and 1965, (see figure 2). Wind direction and speed at the 2-meter height were recorded at selected locations (see figure 1 for exact locations).

The Experimental Branch of the Meteorological Division, Dugway Proving Ground has been investigating the various parameters pertaining to atmospheric diffusion. Because of the interrelationships of terrain, vegetation, surface roughness, and general climatology to the finer structure affecting atmospheric diffusion processes, this document has been prepared as a basic reference for use with other DPG studies of turbulence structure and diffusion. This document is also intended to serve as a reference for local forecasting, operational planning, and selection of testing sites within the Dugway Proving Ground complex. Topographic maps of Dugway vicinity are available through the U.S. Army Map Service (see reference 1).



LEGEND:

- PRIMARY ROADS
- SECONDARY ROADS
- RAILROAD
- WIND SURVEY POSITON, 2-METER HEIGHT
- GOVERNMENT CONTROL AREAS
- TOWNS and COMMUNITIES

FIGURE 1 DUGWAY PROVING GROUND AND SURROUNDING AREAS

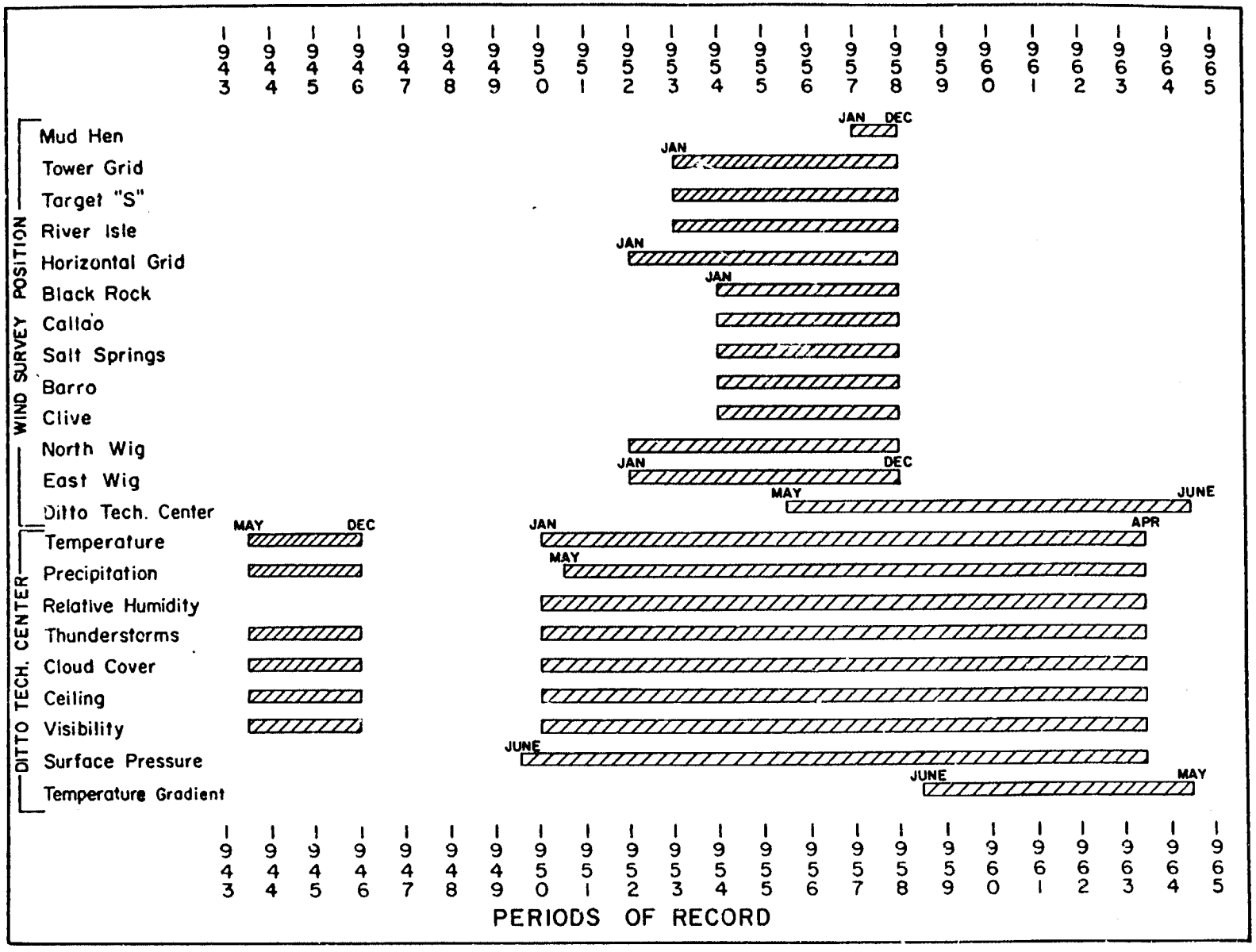


FIGURE 2 PERIODS OF RECORD

SECTION 2. DESCRIPTION OF ENVIRONMENTAL SURROUNDINGS

2.1 DUGWAY PROVING GROUND

A knowledge of the topography and geography is necessary to evaluate local effects on regionally observed meteorological phenomena. Dugway Proving Ground (DPG) is a U.S. Army Test and Evaluation Command installation, located in a physiographic region known as the basin and range province, a region of isolated block mountains and broad intervening valleys and basins. There is a general lack of organic soil throughout the area and practically all of the surface materials are various derivitive forms of the parent mountain rock. The soil at DPG consists of mixed clay and sand.

2.2 SURROUNDING AREAS

Classified by texture, slope gradient and topographic formations the surrounding area is composed of eight broad terrain types and surfaces; mountains, hills, alluvial slopes, silty clay flats, salt flats, active sand dunes, stabilized sand dunes, and the Great Salt Lake. The salient features of these types of terrain and surface are summarized in the following paragraphs:

2.2.1 Mountains

For the most part, the mountains are worn-down fault blocks of sedimentary rock. Igneous intrusions of granite through the valley floor are present in smaller amounts and constitute the whole of Granite Mountain. The mountains are separated by wide valleys and basins which are partially filled with alluvial materials. Most of the mountains are oriented in a north-south direction and vary in size from relatively small masses to extensive ranges whose crests are aligned for several miles. One of these ranges forms the northeastern boundary of Dugway Proving Ground.

General peak elevations in the area range from 5000 to 8000 feet above sea level; however, a few peaks reach higher elevations, namely; Deseret Peak, 11,000 feet, 25 miles northeast and Haystack Peak, 12,101 feet, on the southwestern boundary of Dugway Proving Ground.

The mountains have a variety of topographic forms, ranging from steep rugged masses to well rounded hills. Most crest lines

are uniform and even, but in some cases differential errosion on tilted strata has produced sharp ridges with craggy pinnacles. Most mountain slopes are covered with rock rubble; the result of water, wind, and frost errosion. The slopes are moderately steep and remarkably uniform, maintaining nearly the same inclination from base to summit. Slopes average between 17 and 46 percent gradients. These gradients are emphasized by the abrupt meeting of the mountain slope with the alluvial deposists on the valley floor.

Waterways in the mountains are deep, "V" shaped ravines, which are dry except for rare cloudburst floods. The waterway courses generally have cobblestone or boulder strewn bottoms and are separated by sharp ridges.

2.2.2 Hills

During the course of time, some mountains have been reduced to hills by the forces of errosion. The surface materials consist of coarse gravel and scattered cobblestones, 2 to 10 inches in diameter. Only an occasional badly weathered rock outcrop denotes the existence of the former rock mass. The hills are gently rounded and considerably lower than the rocky northern mountains. Elevations range from 50 to 300 feet above the hill bases. The gentle slopes ascend at an average rate of 9 to 17 percent, except in ravines and washes where gradients up to 46 percent may be found. At their bases, the hills merge with alluvial slopes. The line of demarcation is usually very noticeable as the gentle gradient of the slope contrasts markedly with the steep, rolling hill topography. Some of the hills and mountains, exhibit remnants of old beach lines and wave-cut terraces developed in the geological past when the bases were submersed by extinct Lake Bonneville[1] (see figure 3).

2.2.3 Alluvial Slopes

Alluvial slopes are formed by debris washed down from the mountains by rain and melting snow (see figure 4). In general, this type of terrain exhibits a long, gentle, relatively smooth slope from its base to the foot of the mountains.

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[1] Lake Bonneville was a landlocked, prehistoric fresh water lake which once covered an area of 20,000 square miles.

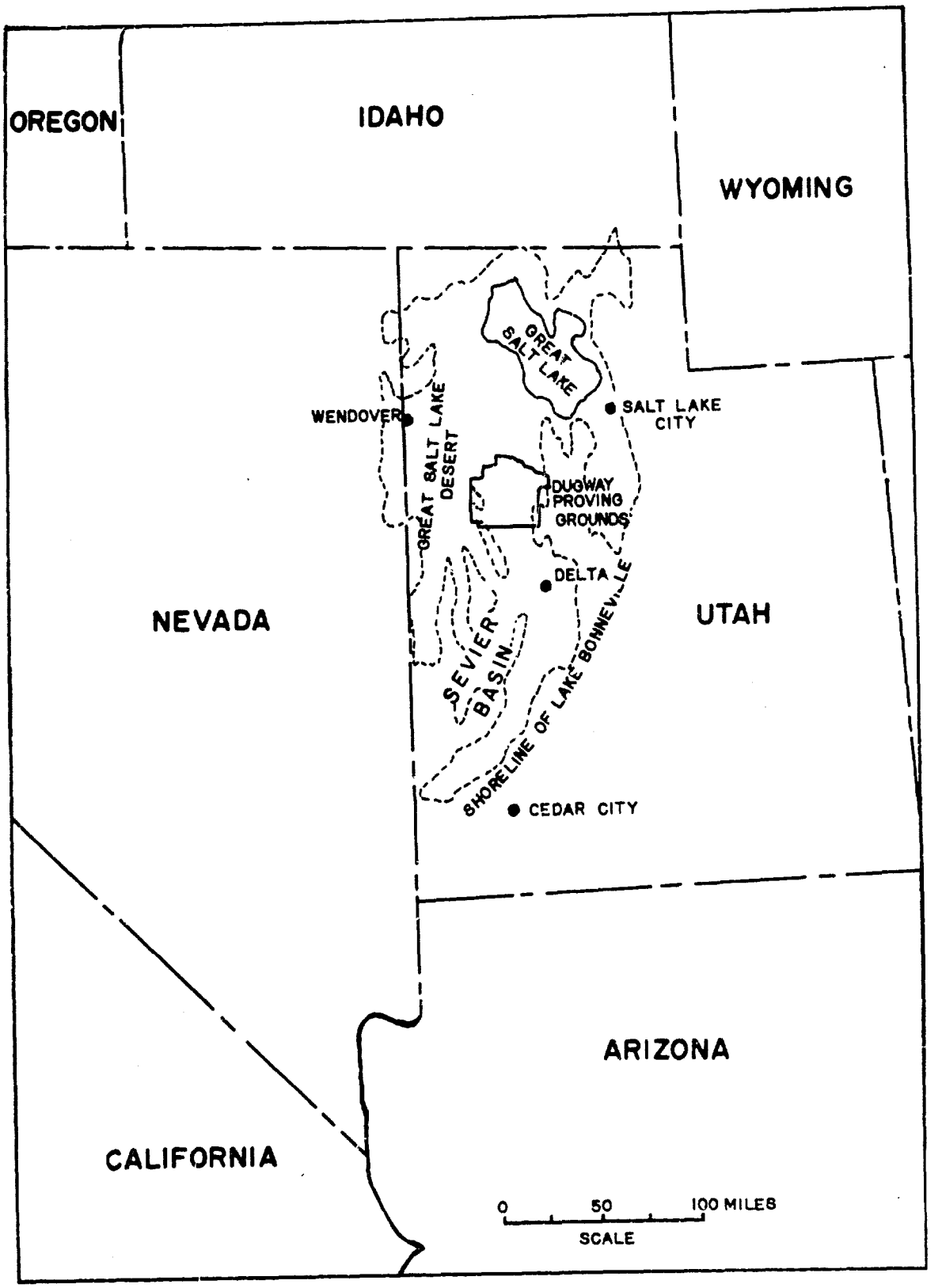

FIGURE 3 SHORELINE OF LAKE BONNEVILLE

Figure 4. Alluvial Slopes, Granite Mountain in Background Greasewood and Shadscale in Foreground.

That part of the slope immediately adjacent to the mountains usually consists of a band of coarse gravel some 200 to 500 yards in width. Occasionally, the zone of coarse gravel has been cut by many "V" shaped drainage channels and presents a firm well drained surface. Merging with and, in many places burying, the coarse gravel is the fine silty clay material which makes up the greater part of the alluvial slope surface. In some places this zone of fine material extends up to the base of the mountains with little or no intervening zone of gravel. Except for slight gradients and the absence of "ripple marks", (refer to paragraph 2.2.5), the alluvial slopes are very similar to the silty clay flats.

Alluvial slopes have between 2 and 9 percent gradients with the steepest slopes near the mountains. The degree of the slopes becomes progressively less away from the mountains until they become imperceptible where the alluvial slopes merge with the silty clay flats. Small hummocks of northern desert shrub of 5 to 12 inches in height are numerous and closely spaced on the slope areas; however, the vegetation is appreciably denser and taller than that found on the silty clay flats. Drainage channels become smaller and more vertically-walled on the lower alluvial slopes.

2.2.4 Salt Flats

A considerable part of Dugway Proving Ground, west and northwest of the alluvial slopes and silty clay flats, consists of the salt flats of the Great Salt Lake Desert (see figure 5). With the exception of scattered small hummocks and small patches of loose silt, the surface is very smooth and has no preceptible slope or visible drainage depressions. The silt hummocks are more numerous near the margins of the salt flats and tend to disappear toward the center. The hummocks usually support isolated plants of Pickleweed or Samphire which is the only vegetation of any consequence found on the salt flats.

The salt flats surface is composed of a thin layer of fine sand and alkaline salts nearly impervious to water. The water table is approximately 4 feet below the surface of this terrain. Standing water (Playas) on the salt flats to the west and northwest persist during periods of rain and the spring thaw. A white salt crust covers most of the salt flats surface.

2.2.5 Silty Clay Flats

The silty clay flats have no perceptible slope or visible drainage depressions (see figure 6). For the most part this area

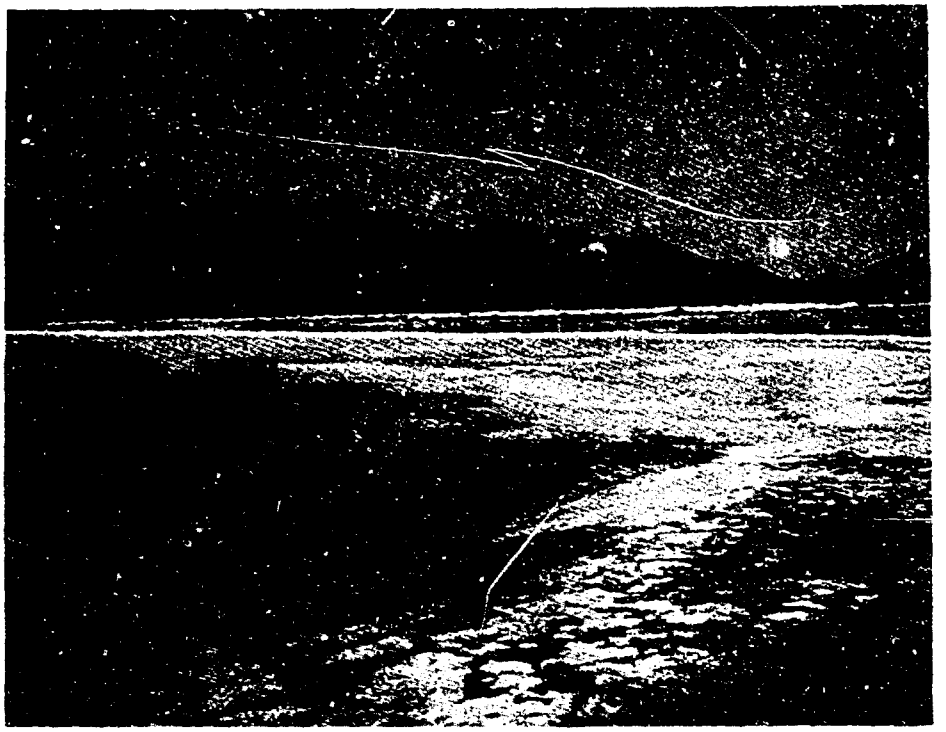

Figure 5. Salt Flats Merging with Silty Clay Flats, Granite Mountain in Background

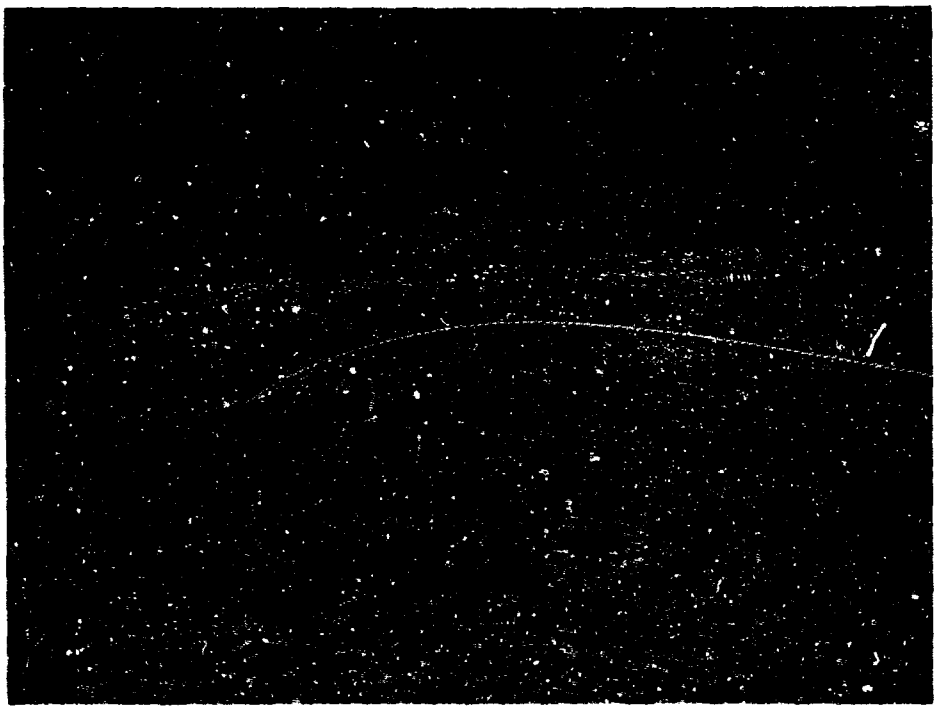

Figure 6. Clay Flats - Ripple Marks in Background.

has a distinct pattern, locally referred to as "Ripple Marks", which is composed of barren, winding strips of light-colored soil alternating with wider vegetated strips. Ripple marks vary in size, but in general are from 4 to 10 feet wide and spaced approximately 10 to 20 yards apart. From the air this terrain resembles contour lines on a map, or a strip-crop farming landscape where light colored crops separate darker ones. During heavy rains, water collects in the ripple marks which are slightly lower than the vegetated areas on either side. Evaporative processes leave salt concentrations strong enough to prohibit plant growth in the ripple marks.

2.2.6 Active Sand Dunes

There are several widely separated areas of active (drifting) sand dunes within the Dugway vicinity (see figure 7). Individual dunes consist of extremely fine textured sand and are usually of the Barchan type, with relatively smooth slopes on the winward side and abrupt slopes on the leeward side. The gradients of the smooth or windward slopes are usually between 5 and 14 percent and lee slopes 17 to 46 percent. Some slopes rise in places to a height of 50 to 100 feet above the surrounding terrain. Vegetation usually does not grow on drifting dunes except for a few scattered plants (see figure 8). The dunes move slowly over the adjacent silty clay flats, and in doing so, bury small Juniper trees and other vegetation.

2.2.7 Stabilized Sand Dunes

Stabilized sand dunes appear in widely scattered parts of the area (see figure 9). These dunes are usually found in the form of low, elongated ridges bordering the salt flats or sometimes as isolated hummocks on alluvial slopes and silty clay flats. The dunes rise only 5 feet to 25 feet above the prevailing flat surface. The sand is fine textured, packed and stabilized by the vegetation cover consisting of shrubs, herbs, grasses and frequently juniper trees. Slopes on these dunes are usually gentle, with gradients ranging from 4 to 14 percent. The steep slopes observed on the active sand dunes are not found on the stabilized sand dunes.

2.2.8 Great Salt Lake

The Great Salt Lake, located on the eastern portion of the Great Salt Lake Valley is at present 75 miles long, 50 miles wide and has an average depth of 40 feet. The salinity of the water is approximately 25 percent.

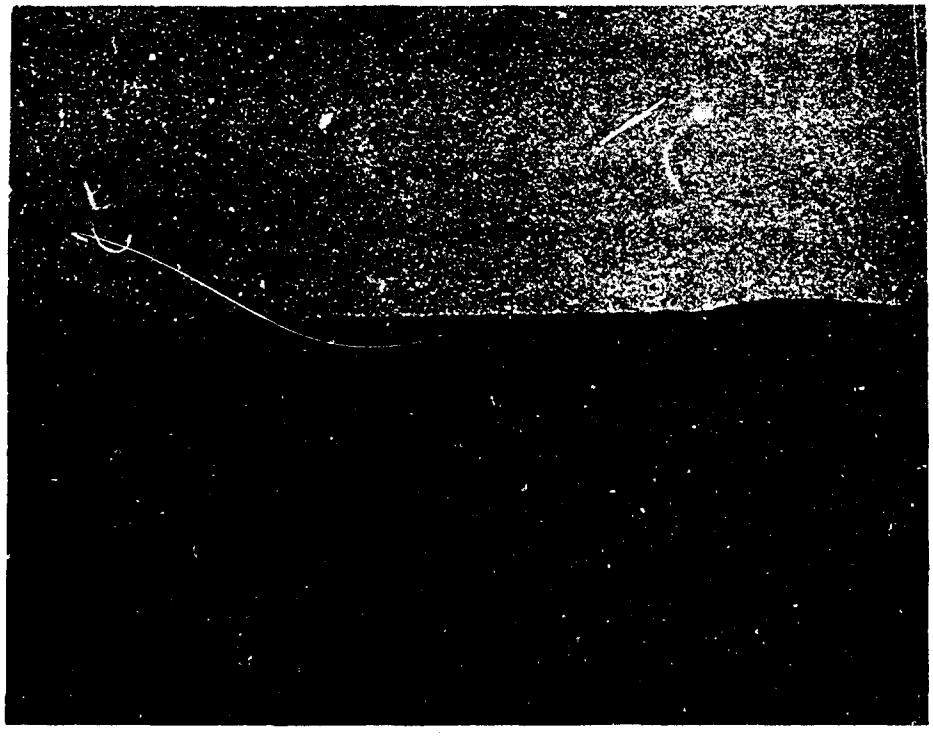

Figure 7. Active Sand Dunes

Figure 8. Active Sand Dunes - Sparse Vegetation

Figure 9. Stabilized Sand Dunes - Moderate Coverage of Juniper and Four Winged Salt Bush.

2.3 VEGETATION

The vegetation of the Dugway area has a generally uniform aspect, with only three major plant types represented. Extensive areas are wholly or nearly lacking in vegetation. The vegetation cover represented differs from that of the more southerly deserts by having greater density in terms of percent of ground covered. Although there is a variety of species present, their general size, color, and aggregate appearance are remarkably similar. The types of formations that have been distinguished are Juniper Woodland, Northern Desert Shrub, and Salt Desert Shrub.

2.3.1 Juniper Woodland

The only tree growths in the area are of a type that has been termed "Desert Woodland", "Pygmy Conifers", and "Pinon Juniper Woodland". The last name has been modified here simply to Juniper, since Pinon Pine does not accompany the Juniper in this area as it does in many parts of the west (see figure 10). Juniper trees are locally known as "Cedars" and are abundant in the mountain range forming the northeastern boundary of Dugway Proving Ground. Junipers are found on sandy, well drained soil, usually on lower foothills and mountain slopes, and on stabilized sand dunes. The height of a Juniper seldom exceeds 25 feet. Where Juniper grows on lower slopes, it is often accompanied by sage brush which also favors well drained soils.

2.3.2 Northern Desert Shrub

The most extensive type of vegetation in the Dugway Proving Ground vicinity is the Northern Desert Shrub. Included is a number of different species in various associations, but by far the most widespread is Shadscale (see figure 11). This plant is found both in pure growths and in combinations with such species as Gray Molly, Greasewood, Budsage, Nuttals Salt Bush, Sagebrush, Winterfat, and Horsebrush. Because this type of vegetation can tolerate a certain amount of alkalinity in the soil, it occupies the lower alluvial slopes and margins of the desert salt flats. The greatest variance of vegetation is found on the stabilized sand dunes, which may or may not include Junipers but will nearly always include a variety of plant life.

2.3.2.1 Shadscale. Shadscale generally occupies lower ground than does sagebrush, into which it merges on the lower slopes where the soil is less alkaline. Shadscale reaches its greatest density on the lower alluvial slopes where it covers 30 percent of the ground

Figure 10. Juniper Woodland

Figure 11. Shadscale - Gray Molly

area but appears from a distance to form continuous vegetation cover. In the more extensive shadscale areas, however, the average height of the plants is about 18 inches, and the color is a dull light brown very similar to that of the ground. On the lower, more alkaline silty clay flats, the plants are smaller and distributed more sparsely, and the continuity of the plant cover is interrupted by "Ripple Marks". On such areas as these, the shadscale is frequently associated with Gray Molly and Greasewood.

2.3.2.2 Gray Molly and Greasewood. Gray Molly and Greasewood are rarely found in the desert mountains where thin soils and numerous rock outcrops do not favor plant growth. The largest of the northern desert shrubs is the Greasewood, (see figure 12) which grows to a height of 18 to 48 inches, a vegetative crown from 18 to 40 inches, and is spaced at intervals from 3 to 20 feet. Gray Molly ranges in height from 3 to 12 inches, (see figure 13) has a crown from 4 to 14 inches and is spaced at 2 to 4 feet intervals.

2.3.2.3 Sagebrush. In the sagebrush areas, (not extensive in DPG vicinity) the vegetation takes on a grayish appearance and may attain a height of 3 to 4 feet. Sagebrush is gradually being crowded out by the Juniper as the latter extends its range down the mountain slopes.

2.3.3 Salt Desert Shrub

The salt desert shrubs differ from the foregoing types of vegetation in that they consist of plants that exist on a high water table rather than on water from occasional rains. These shrubs, therefore, have deep roots, are of a light green color during the growing season and often display somewhat fleshy leaves and have a high degree of tolerance for alkali. Typical of this form of vegetation are Pickleweed and Samphire. In the area where Pickleweed and Samphire are found, the terrain is a saline plain of grayish clay, interrupted at moderately wide intervals by the plants, rising from 8 to 20 inches above the hummocks. Pickleweed and Samphire are usually confined to the margins of the salt flats where the water table is 4 or 5 feet deep. Farther out in the salt flats the degree of alkalinity is usually too great even for these salt resistant species.

2.4 VEHICULAR TRAVEL

Contrary to general appearance, the Pickleweed, Shadscale, Greasewood, and Gray Molly areas present a hindrance to vehicular

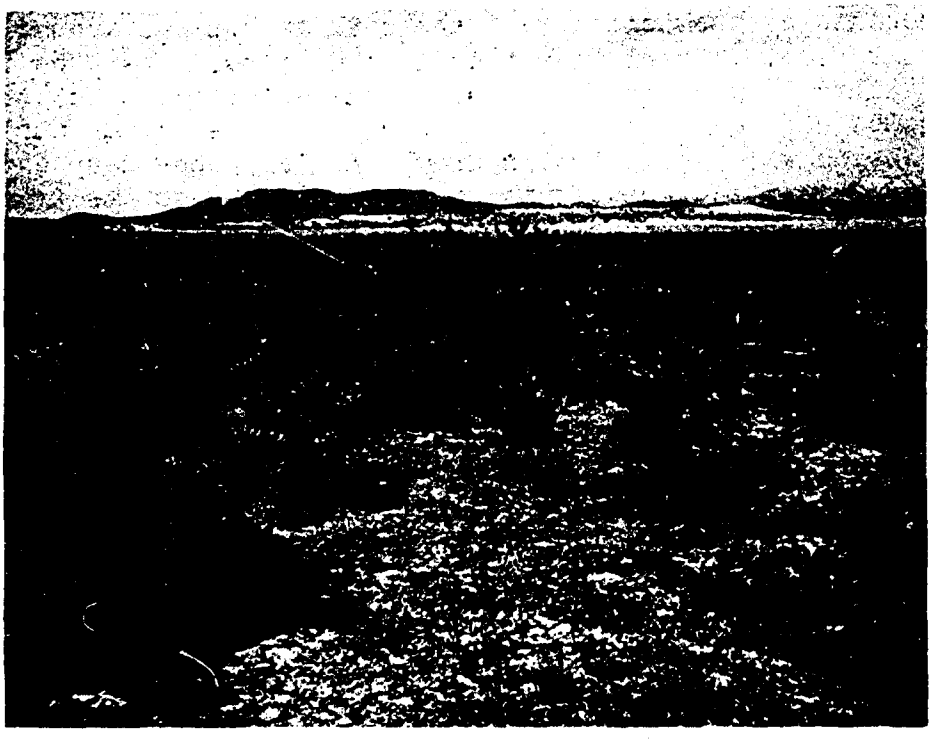

Figure 12. Greasewood

Figure 13. Grey Molly

travel because of the tendency of the soil to hummock around the base of the plants. Vehicular travel is difficult over the Salt Flat and Silty Clay Flats areas during the wet season when the soil becomes soft and plastic. A vehicle in these areas during the wet season will leave tracks from 8 to 12 inches deep and it is not uncommon for a vehicle to bog down as deep as its frame. However, when these areas have dried out from the winter precipitation, (generally July 1st) a vehicle can travel almost anywhere with only minor difficulty.

SECTION 3. CLIMATE

3.1 INTRODUCTION

Dugway Proving Ground and the surrounding vicinity are a part of the Great Basin, a region of scattered mountains and broad intervening valleys and basins. The Dugway region is climatologically classified as a middle-latitude dry climate or steppe region. The climate is characterized by a hot dry summer, a cool spring and fall, a moderately cold winter and a general year-round lack of precipitation. The aridity of the Dugway area is further intensified by the mountain barriers west of the Great Salt Lake Valley. These mountain barriers, oriented in a north-south direction, tend to restrict the movement of weather systems into this area, however Dugway is still subjected occasionally to well developed cyclones and fronts. Precipitation varies quite widely between seasons. Winter precipitation (November through March) usually in the form of snow, accounts for nearly half of the total annual precipitation. In this region, as in all steppe regions, there are relatively severe seasonal temperature extremes and also large diurnal ranges of temperatures.

3.1.1 Winter

An increase in the number of Polar Air Masses pushing over the Continental Divide into the Great Basin occurs during late December at Dugway, causing below freezing temperatures but very little snow throughout the area. There is usually rapid clearing after passage of a Polar front. Frequently high pressure systems enter the Great Basin, stagnate and intensify, with resultant light winds and clear skies. If sufficient moisture is available in the lower atmosphere, fog will form persisting until a cold front of moderate intensity brings a change of air mass in the area. Cold frontal passages from the Artic become less frequent in February and front from the Pacific Northwest more frequent as a gradual transition from winter to spring begins. Periods of cloudy weather and precipitation then are extended for several days in contrast to the rapid clearing after the passage of a Polar front. Frequency of surface cold frontal passages and cold type occlusions reaches its maximum in March as large scale movement of Polar Maritime air masses between higher to lower latitudes occur. Severe thunderstorm activity associated with the cold fronts causes wind speeds in excess of 65 mph. During winter, if the major upper air trough is stationary over the Great Basin, continued poor weather prevails. If the major upper air trough is centered over the central U.S. and a ridge of high pressure aloft is maintained over the western U.S., Dugway experiences fair weather.

3.1.2 Spring

As Spring approaches, the passage of frontal systems from the Pacific Northwest becomes more frequent, with inclement weather usually lasting for 1 to 2 days. Frequently, these surface cold fronts are followed by an intense semi-stationary low pressure system aloft which extends the period of stormy weather 2 to 4 days. With the arrival of Spring, the number of Pacific fronts begin to decrease but thunderstorms of moderate to severe intensity are experienced with frontal activity as the warmer air is forced aloft by these vigorous cold fronts. By mid-spring increased thunderstorm acitivity, associated with troughs aloft occur. Towards late May and early June, temperatures usually moderate, but below freezing temperatures have been recorded on several occasions and snow has fallen as late as June. Frequently, cold fronts from the Pacific Northwest, upon reaching the mountain barriers west of Dugway, are forced aloft. These fronts are extremely difficult to analyze on a surface synoptic chart and analysts frequently disregard the fronts only to find that on reaching the Great Salt Lake Valley the fronts once again descend to the surface, causing cloudy skies, precipitation and shifting winds. Skies are generally clear during night hours in June but cumulus clouds often develop during the late morning hours, increasing in size during the afternoon then dissipating after sunset.

3.1.3 Summer

Thunderstorm activity increases sharply with the arrival of summer. Frontal passages are at their minimum during this season since the major storm tracks are located at higher latitudes and large scale weather systems usually pass far to the north of the Great Basin. The thermal trough of the Southwestern U.S. becomes established during the early summer with the northen most extension often reaching the Canadian border by late August. Thunderstorms, primarily of the air mass type, with accompanying gusty surface winds and blowing dust account for almost all of the precipitation received. Maximum temperatures and lowest humidities are recorded during July. September is the transition month between summer and autumn with marked weather changes occurring. A sharp lowering of daily minimum temperatures will occur. Thunderstorm acitivity decreases and polar maritime fronts associated with cold lows aloft become more frequent as large scale movement of air masses occur between higher and lower latitudes. During the summer regime the air mass dominating the weather over this area is usually modified Polar Maritime.

3.1.4 Fall

A marked transition is apparent in weather conditions with the advent of fall. The average temperature for October is 15°F lower than the average temperature for September. The first snow storm usually occurs in later September or early October and is usually the result of the formation of a cold low aloft. The mountains become snow covered as the mid-autumn and early winter weather regime becomes established. If the surface cold fronts are associated with a cold low aloft the intensity of precipitation is greater and the area affected becomes more widespread than with the surface front alone. Rapid clearing usually occurs after surface frontal passage. Periods of fair weather are experienced with the formation of the Great Basin high. As winter approaches the number of cold fronts from the northwest increases. Cold arctic outbreaks are uncommon but have occurred during the late fall season.

3.2 CLOUDINESS

Winter and spring months, (December through April) exhibit the greatest amount of cloudy weather, with approximately 70 to 80 percent of the total number of days displaying some cloud cover (refer to table 1). During those months, 14 to 23 percent of the days are overcast (9/10 or more cloud cover). The greater percent of clear days occurs in September when 53 percent of the month has less than 1/10 cloud cover. During the summer months considerable cumulus activity occurs with small clouds forming by late morning, increasing in size during the afternoon, then dissipating in the early evening.

3.3 CEILING

During periods of cloud cover, ceilings 10,000 feet and higher occur 75 to 90 percent of the time from June to October, and from 44 to 88 percent of the time for the remainder of the year (refer to table 2). Ceilings below 1000 feet occur 0.2 percent of the time from April to October. Ceilings of less than 1000 feet occur less than 5 percent of the time even during December which is the cloudiest month.

3.4 VISIBILITY

Visibility is 10 miles or greater 95 percent of all months of the year. From May through October visibility of 10 miles or greater is recorded 99.1 percent of the time except during dust storms of short duration when visibility is reduced (refer to table 3). During December and January, the months of lowest visibility,

Table 1. Cloud Cover

MONTH	PERCENTAGE OF TIME WITH INDICATED CLOUD COVER						
	Clear	Sctd.	Hi Brkn. Hi Ovc.	Mid. Brkn.	Mid. Ovc.	Low Brkn.	Low Ovc.
January	23.9	18.8	17.0	9.3	7.2	7.7	16.1
February	18.9	20.9	17.4	9.9	6.2	11.8	14.9
March	23.7	20.8	16.6	8.5	5.1	13.2	12.1
April	23.6	23.1	19.2	8.1	3.6	12.6	9.8
May	20.4	26.8	23.1	8.4	2.1	12.6	6.6
June	38.3	28.8	13.5	6.5	1.3	7.6	4.0
July	37.2	35.1	10.6	10.2	1.3	4.1	1.5
August	40.5	32.3	9.7	11.3	0.7	4.2	1.3
September	52.8	24.5	9.5	7.3	1.2	3.0	1.7
October	45.5	22.4	14.0	6.4	2.3	5.2	4.2
November	33.7	21.7	16.3	8.4	3.7	7.2	9.0
December	30.0	20.0	15.3	7.6	4.4	7.7	15.0

High broken or overcast above 20,000 ft.
Middle broken or overcast between 6,500 ft. and 20,000 ft.

Table 2. Ceiling Height

HEIGHT OF CEILING IN FEET ABOVE SURFACE	NUMBER OF OBSERVATIONS	PERCENTAGE OF OBSERVATIONS
10,000 ft. and higher	108,980	79.3
5,000 ft.-9,500 ft.	13,370	9.7
3,100 ft.-5,500 ft.	8,635	6.3
2,100 ft.-3,000 ft.	2,751	2.0
1,000 ft.-2,000 ft.	1,962	1.4
500 ft.-900 ft.	830	0.6
0 ft.-400 ft.	973	0.7
Total	135,501	

distances of 10 miles or greater have been recorded 90.2 percent of the time. Visibility of less than 1/2 mile were recorded .06 percent for each month from April through October. The greatest frequency of reduced visibility occurs during November, December, and January when .05, .29, and .18 percent of the days respectively, have a visibility of 1/2 mile or less. Fog is infrequent, although radiation fog has persisted for 2 to 5 days during the winter months. Pilot Peak, 86 miles northwest of DPG, near the Utah-Nevada border, is clearly visible for a few days each month from November through March and nearly all days during the remainder of the year. The extreme clearness of the air is attributed to the relative dryness and the lack of industrial impurities.

Table 3. Visibility

VISIBILITY (miles)	NUMBER OF OBSERVATIONS	PERCENTAGE OF OBSERVATIONS
0 through 1/8	386	0.28
3/16 through 1/4	258	0.19
5/16 through 1/2	495	0.36
5/8 through 3/4	253	0.18
1 through 2 1/4	781	0.57
2 1/2	83	0.06
3 through 6	2278	1.66
7 through 9	1484	1.08
Over 10	131,394	95.62
Total	137,412	

3.5 PRECIPITATION

Local precipitation is usually of two types, (1) frontal or migratory cyclonic disturbances and (2) convective or summertime thundershowers. Precipitation from the migratory disturbances is usually light in amount although prolonged periods of precipitation, 2 to 3 days, do occur when a low pressure system remains stationary over Nevada. Influences from cyclonic disturbances seldom occur from late spring to early fall. The summertime precipitation is generally limited to the air mass type thunderstorms which are most frequent in July and August. The area affected by these storms is generally quite large, but due to the height of the cloud bases their precipitation is limited mostly to virga, but occasional violent downpours of brief duration do occur (refer to tables 4 through 8). Precipitation may occur

either as rain or snow but snow is usually confined to the period from October through March. In March 1952, a record snow fall of 19.2 inches was recorded, exaggerating the precipitation and snow fall for the month (refer to table 8). Snow has fallen as late as June and as early as September, however, during the period of record only a trace fell in May, and September and .03 inches in June. The annual average precipitation is 6.94 inches.

Table 4. Average Monthly Precipitation

MONTH	PRECIPITATION (inches)
January	.53
February	.53
March	.55
April	.75
May	.74
June	.57
July	.38
August	.57
September	.46
October	.42
November	.57
December	.87
Total	6.94

Table 5. Average Monthly Snowfall

MONTH	SNOW DEPTH (inches)
January	4.365
February	3.035
March	4.394
April	0.353
May	Trace
June	0.028
July	0
August	0
September	Trace
October	1.265
November	2.129
December	2.098
Total	17.667

Table 6. Frequency of Days with Precipitation

PRECIPITATION (inches)	NUMBER OF DAYS WITH INDICATED PRECIPITATION	PERCENTAGE OF DAYS WITH INDICATED PRECIP.
0	4065	72.45
Trace	814	14.51
0.01	69	1.23
0.02-0.05	220	3.92
0.06-0.10	175	3.12
0.11-0.25	158	2.82
0.26-0.50	80	1.43
0.51-1.00	25	0.44
1.00-2.50	4	0.07
2.60-5.00	1	0.02
Total	5611	

Table 7. Frequency of Days with Snowfall

SNOW DEPTH (inches)	NUMBER OF DAYS WITH INDICATED SNOWFALL	PERCENTAGE OF DAYS WITH INDICATED SNOWFALL
0	4244	89.95
Trace	294	6.23
0.1-0.4	51	1.08
0.5-1.4	79	1.67
1.5-2.4	25	0.53
2.5-3.4	15	0.32
3.5-4.4	6	0.13
4.5-6.4	4	0.09
Total	4718	

Table 8. Monthly Precipitation (inches)

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1950	.	.	.	.	.	.	.	.	.	0.56	0.89	0.59	
1951	0.62	0.28	0.36	0.85	0.33	0.25	0.75	0.34	0.10	0.50	0.67	1.49	6.54
1952	1.39	0.06	1.60	1.33	0.66	0.51	0.02	0.04	0.00	0.00	0.57	0.20	6.38
1953	0.52	0.01	0.14	0.97	0.25	0.30	1.17	0.52	T	0.22	0.05	0.33	4.48
1954	0.22	0.34	1.19	0.18	0.21	0.42	0.12	0.04	0.23	0.58	0.58	0.24	4.35
1955	0.55	1.39	0.02	0.25	0.53	0.79	0.32	1.36	0.68	0.70	0.38	0.41	7.38
1956	1.07	0.75	T	0.33	0.97	0.04	0.21	T	0.11	0.68	0.03	0.39	4.58
1957	0.86	0.01	0.30	0.81	2.37	0.66	0.43	0.54	0.10	0.11	0.50	0.18	6.87
1958	0.10	1.14	0.83	0.15	0.25	0.00	0.06	0.80	0.08	T	0.60	0.12	4.13
1959	0.52	0.65	0.22	0.80	1.10	0.46	0.47	1.27	0.76	T	T	1.58	7.83
1960	0.60	0.95	0.65	0.35	0.25	0.04	0.26	0.30	0.16	0.27	0.60	0.47	4.90
1961	T	0.20	0.48	0.24	0.39	T	0.91	1.31	1.99	1.34	0.48	0.48	7.82
1962	0.53	0.89	0.81	0.62	0.99	0.62	0.33	T	0.08	0.84	0.15	0.02	5.88
1963	0.26	0.62	0.80	1.95	0.10	1.79	T	0.49	0.93	0.33	1.48	0.32	8.71
1964	0.22	0.21	0.56	1.64	1.24	1.82	0.11	0.12	T	0.16	0.61	1.60	8.29
1965	0.44	0.46	0.34	0.77	1.39	0.86	0.55	1.43	1.67	0.42	1.50	5.49	15.32

T = Trace

2.6 SURFACE PRESSURE

The extreme minimum pressure recorded from 1955 to 1963 was 841.7 millibars (24.855 inches Hg) in January 1962. The extreme maximum pressure recorded during this same period was 889.9 millibars (26.279 inches Hg) in December 1956. The curve of average pressures (refer to table 9 and figure 14) has two deviations from normal, the sharp fall from February to March and the sharp rise from June to July. This fall was attributed to the period of maximum frontal activity and the rise was attributed to the establishment of the summertime pressure regime with the resultant absence of cyclonic disturbances. The wintertime maximum of frontal influences can also be seen from the greater monthly average range from December to April.

Table 9. Surface Pressure

MONTH	SURFACE PRESSURE (mbs)			
	AVG MAX	AVG MIN	AVG	DIURNAL RANGE
January	871.2	865.4	868.3	5.8
February	870.6	865.0	867.8	5.6
March	868.1	862.0	865.1	6.1
April	876.2	861.6	864.4	5.6
May	866.5	861.5	864.0	5.0
June	866.6	861.7	864.2	4.9
July	868.5	864.5	866.5	4.0
August	868.9	864.8	866.9	4.1
September	869.2	864.7	867.0	4.5
October	870.6	865.8	868.2	4.8
November	872.9	867.5	870.2	5.4
December	873.2	867.1	870.7	6.1
Annual	869.5	864.3	866.9	5.2
Height of Barometer - 4359 feet ASL				

3.7 TEMPERATURE GRADIENT

The vertical temperature gradient in the boundary layer at Dugway is, for the most part, a moderate lapse during the day and a moderate inversion at night (1F° to 3F° from 0.5 to 4.0 meters). However, this stability varies from season to season. Narrow ranges of stability or instability are encountered during the

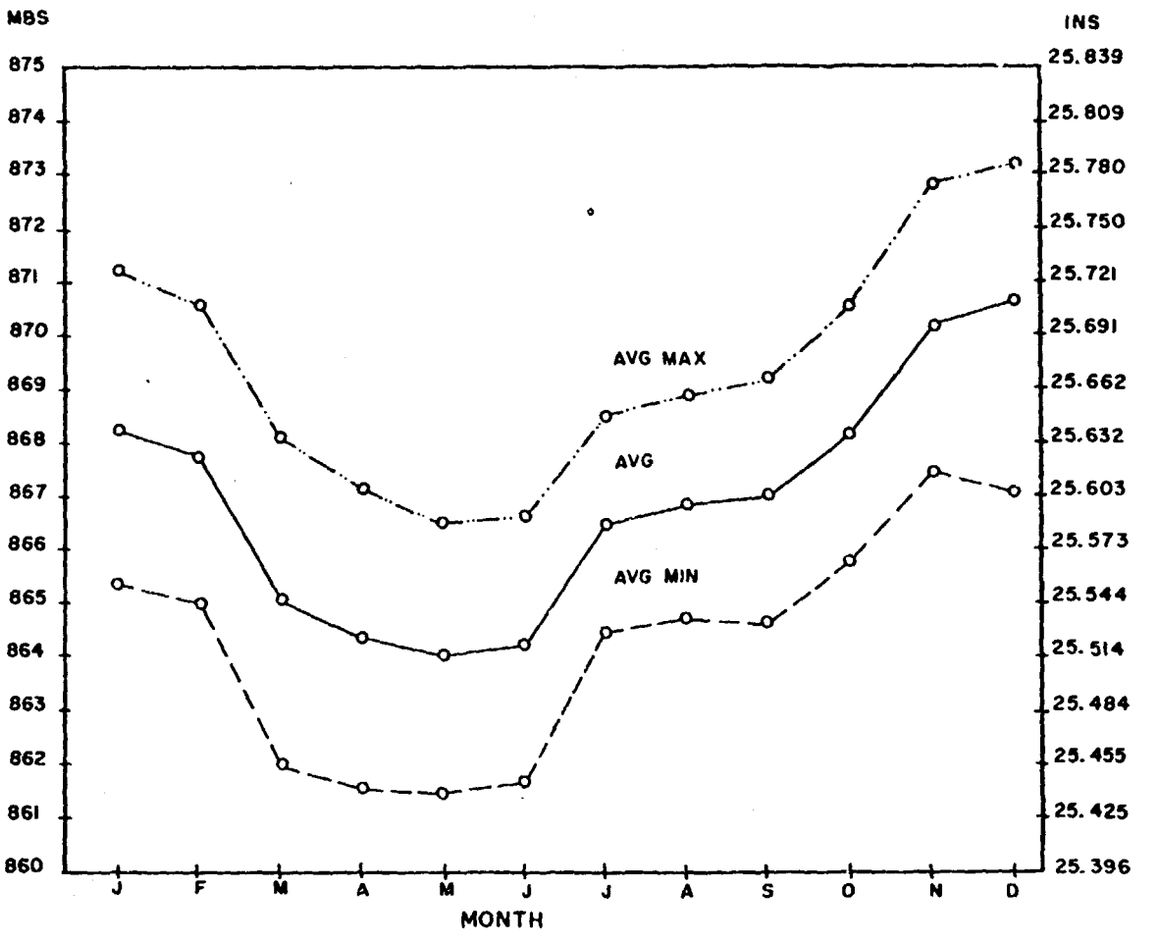

Figure 14. Average Monthly Surface Pressure

winter when the normal daytime lapse is 1F° to 1.5F° through 0.5 to 4.0 meters and the normal nighttime inversion is 1F° to 2F° through the same layer. The conditions during the autumn months are more stable at night and more unstable during the day, with an inversion and lapse, respectively, on the order of 1.5F° to 2.5F°. Greater variation in stability is observed in the spring when the daytime lapse varies from 2F° to 3F° and occasionally as much as 5F° between 0.5 and 4.0 meters on warm days. Nighttime inversions are of the same order of magnitude.

Even greater extremes in stability are noted in the summer months. Daytime lapse normally varies from 3F° to 6F° with a maximum of 8F° to 10F° on very warm days. While at night, inversions of 3F° to 6F° occur and inversions of as high as 12F° from 0.5 to 4.0 meters have been observed. At times during the summer months, instability has developed to the extent that dust devils are formed as early as midmorning. Later in the afternoon the dust devils increase in number, and the visible tops often exceed 500 feet and on occasion reach 1000 feet.

The magnitude of the spring and summer temperature gradients may be understood from the fact that during the months of April through August the Dugway region is under the influence of a dry air mass which allows maximum daytime surface heating. The clear nights and dry air are also ideal for maximum nighttime outgoing radiation (refer to appendix 2).

3.8 THUNDERSTORMS

Thunderstorms generally occur during the months of April through September with the maximum frequency in the month of July (refer to table 10). Cumulonimbus (CB) type clouds, in various stages of development, may be seen almost daily during these months. Many of these cloud formations produce little or no precipitation in the Dugway valley but are generally confined to the surrounding mountains. The forming of cumulus clouds over the mountains begins in the midmorning continuing to build into the afternoon and develop into CB clouds by late afternoon or early evening. Some of these clouds separate from the main areas of formation and drift away from the mountains and over the adjacent plains. When sufficient moisture is present in the lower atmosphere, cumulus clouds form over the valley area and build up into CB clouds in the afternoon and dissipate soon after sunset. The main requirement for the formation of Cumulonimubus clouds is the advection of warm moist air northward from either the Gulf of Mexico or the Gulf of California into this area. Air advected from the west and southwest is

not conductive to the formation of the thunderstorm clouds of any consequence within the DPG complex due to the orographic lifting of the moist air on the windward side of the rugged mountain ranges west of Dugway.

Table 10. Number of Thunderstorms

MONTH	THUNDERSTORMS	
	TOTAL OBSERVED DURING RECORD	AVERAGE NO. PER MONTH - 1 YEAR
January	1	<1
February	1	<1
March	7	<1
April	8	<1
May	36	2
June	31	2
July	98	6
August	73	4
September	13	<1
October	7	<1
November	0	0
December	0	0
Total	275	16

3.9 RELATIVE HUMIDITY

During most of the year the humidity is quite low. The average relative humidity is lowest during the months of June through September and is highest during November through March (refer to table 11 and figure 15).

3.10 TEMPERATURE

The temperature cycle at Dugway Proving Ground is of the continential type. Table 12 and figure 16 show that during the period of record, January was the coldest month and July the warmest with average temperatures of 26.7° and 79.8° F, average minimums of 15.4° and 62.1° F, and average maximums of 37.6° and 93.8 ° F, respectively.

The annual range of average temperatures covered nearly 53°F. However, the maximum observed temperature was 109° F (July) and the minimum -16° F (January)--a range of 125° F. The annual average of the diurnal temperature ranges was 27° F with the greatest monthly average diurnal range of 32.7 ° F in September and the least 19.4° F in December (refer to table 13 and figure 17).

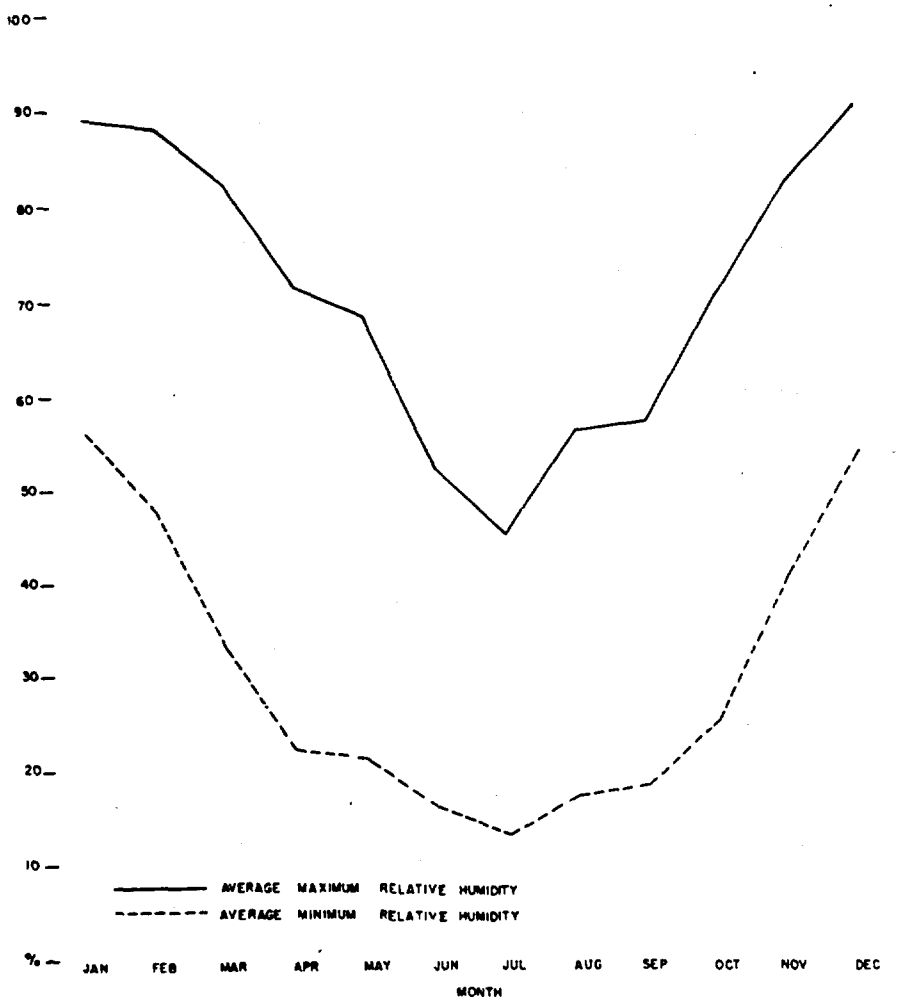

Figure 15. Average Monthly Relative Humidity

Table 11. Relative Humidity

MONTH	MAX	AVG MAX	MIN	AVG MIN	AVG
January	100	89	18	56	75
February	100	88	15	48	70
March	100	82	7	33	57
April	100	71	3	22	44
May	100	68	3	21	41
June	98	52	3	16	31
July	98	45	3	13	26
August	96	56	6	17	33
September	99	57	6	18	35
October	99	70	7	25	46
November	100	82	14	40	62
December	100	90	20	53	74

Table 12. Monthly Average and Extreme Temperatures

TEMPERATURE (°F)						
MONTH	MAX	AVG MAX	AVG	AVG MIN	MIN	AVG DIUR RANGE
January	66.0	37.6	26.7	15.4	-16.0	22.2
February	71.0	44.6	32.7	23.3	-11.0	21.3
March	80.0	51.1	40.1	27.4	-7.0	23.7
April	87.0	62.3	50.9	35.9	14.0	26.4
May	94.0	73.5	60.9	44.7	25.0	28.8
June	107.0	84.2	70.4	53.5	33.0	30.7
July	109.0	93.8	79.8	62.1	41.0	31.7
August	104.0	91.5	76.4	60.7	38.0	30.8
September	101.0	81.8	66.2	49.1	26.0	32.7
October	87.0	68.5	51.3	38.1	17.0	30.4
November	74.0	51.3	38.2	25.6	-9.0	25.7
December	60.0	40.1	27.3	20.7	-5.0	19.4
Annual		65.0	51.7	38.0		27.0

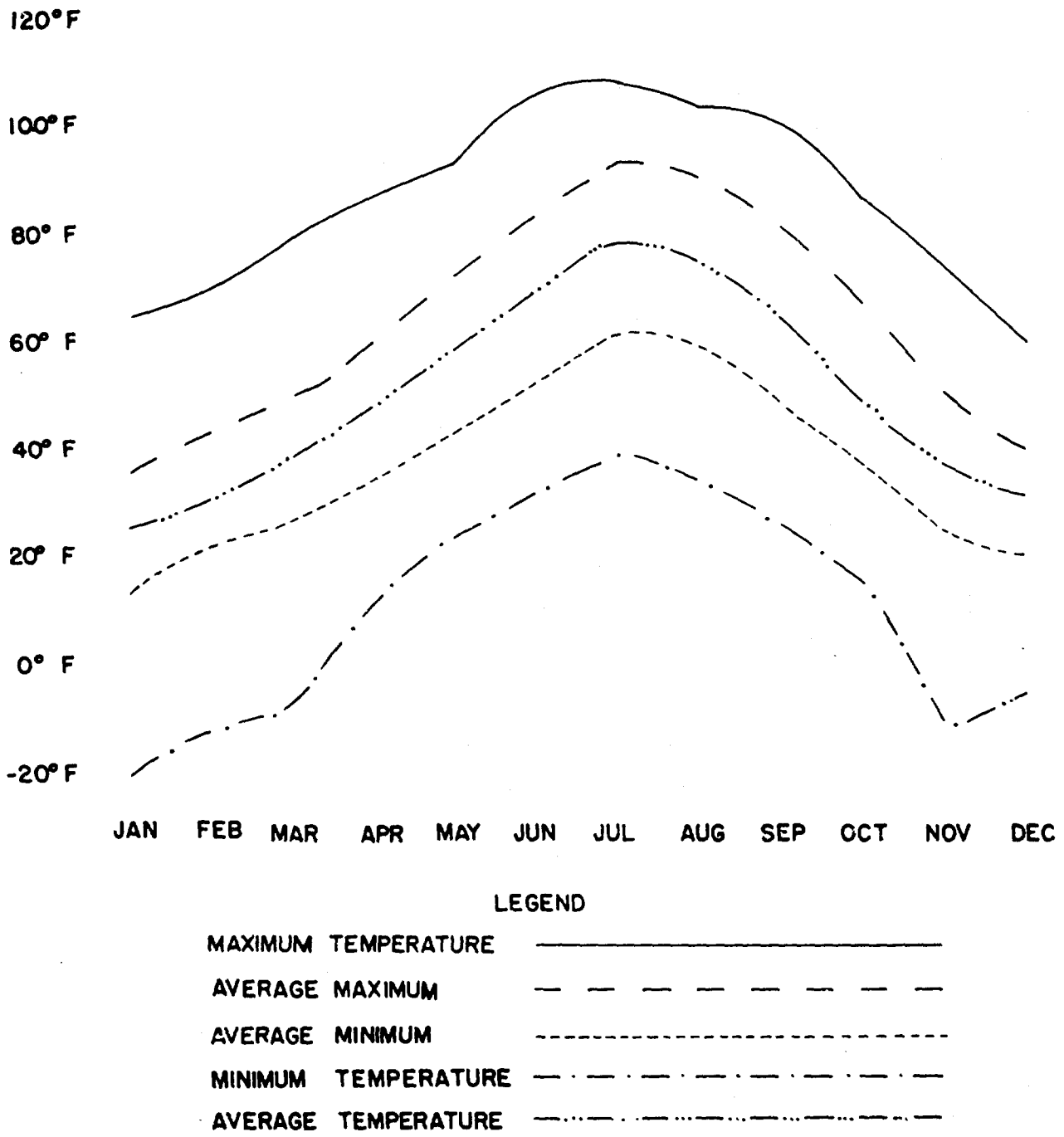

Figure 16. Monthly Average and Extreme Temperatures

Table 13. Average Hourly Temperatures

HOURLY AVERAGE TEMPERATURES (°F) FOR INDICATED MONTH												
HOUR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
0100	22.7	27.6	34.7	44.2	53.2	62.4	71.5	68.5	57.5	43.7	32.7	23.8
0200	22.4	27.3	33.9	43.1	51.0	60.8	69.7	67.4	56.1	42.5	32.0	23.1
0300	22.1	26.6	33.2	42.0	50.2	58.7	67.8	65.5	54.4	41.2	31.4	22.6
0400	21.7	25.9	32.5	41.1	48.8	56.9	66.3	64.1	53.3	40.4	31.0	22.1
0500	21.3	25.6	32.0	40.4	48.4	55.6	65.0	62.7	52.3	39.5	30.5	21.7
0600	20.6	25.3	31.5	39.8	48.4	56.0	64.8	61.8	51.4	38.9	30.0	21.2
0700	20.6	24.9	31.2	40.4	51.9	60.8	69.4	64.6	52.9	38.7	29.8	20.9
0800	20.6	24.9	33.1	44.2	56.1	65.0	73.9	69.0	57.7	41.6	30.7	21.0
0900	22.3	27.4	37.2	48.9	60.7	70.0	79.2	75.1	64.9	48.9	35.0	23.3
1000	25.5	30.6	40.9	52.5	63.7	72.5	82.7	78.7	69.7	53.8	39.4	26.5
1100	28.9	33.1	43.7	55.4	66.5	75.5	85.8	82.6	73.3	57.7	43.4	30.1
1200	31.6	35.4	46.0	57.6	68.6	77.8	88.3	84.9	76.2	60.9	46.3	32.8
1300	33.8	37.3	48.1	59.5	70.5	79.8	90.9	87.5	78.8	63.0	48.1	34.8
1400	35.3	38.5	49.2	60.7	71.5	81.2	92.1	88.7	80.4	64.5	49.4	35.9
1500	35.9	39.3	50.1	61.6	72.4	82.5	92.9	89.7	81.5	65.7	50.4	36.7
1600	35.8	39.7	50.4	61.7	72.4	82.5	92.8	89.8	81.3	65.8	49.0	36.2
1700	34.3	39.1	49.3	61.4	71.8	82.1	92.2	88.8	80.3	64.3	46.8	34.6
1800	31.4	37.0	47.5	60.5	70.7	81.4	90.6	87.3	78.1	60.9	43.0	31.8
1900	28.8	34.2	44.4	57.4	67.8	79.3	88.1	84.2	72.9	55.9	40.3	29.2
2000	27.5	32.5	41.8	54.4	64.8	76.3	84.7	80.7	69.0	52.9	37.7	27.5
2100	25.7	30.9	39.6	51.2	61.2	72.0	80.4	76.3	65.6	50.1	36.2	26.1
2200	24.7	30.9	38.1	49.2	58.9	69.3	77.8	74.2	63.3	48.1	35.1	25.3
2300	24.2	29.1	36.9	47.6	57.0	67.0	75.4	72.1	60.5	46.3	34.2	24.7
2400	23.4	29.3	36.4	46.2	55.4	65.0	73.6	70.3	58.6	44.9	33.2	24.1

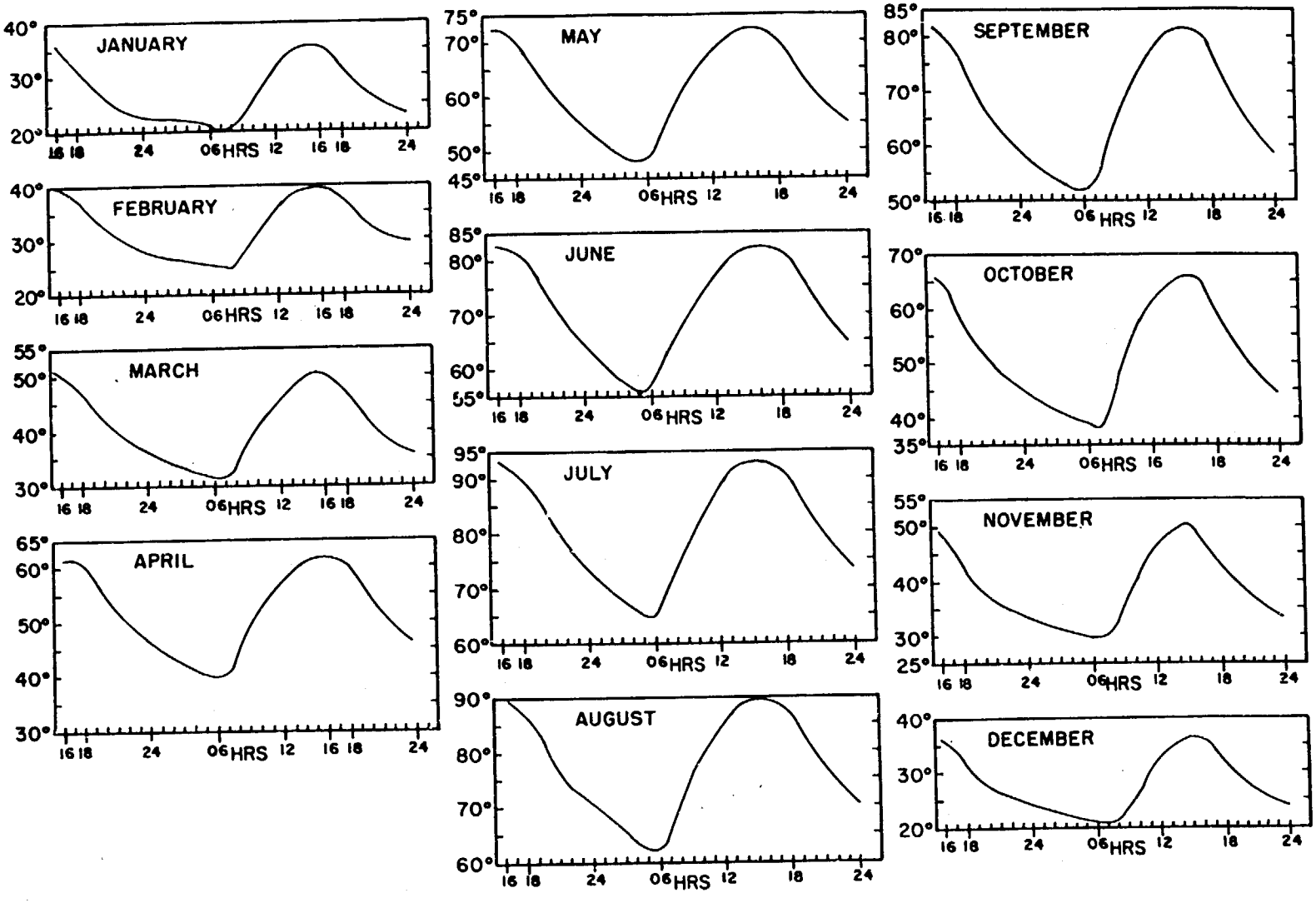

Figure 17. Average Hourly Temperatures

3.11 WIND

The Dugway Proving Ground area is influenced by two types of wind regimes; the synoptic wind associated with migratory pressure systems and the local wind experienced under a stagnant or stationary pressure system. The surface synoptic wind is of a moderate speed and has no specific direction, except that it generally follows the pressure gradient. At present it is thought that the local wind is an interbasin circulation set up by the temperature difference between the portions of the extinct old Lake Bonneville area. These two portions are the Great Salt Lake Desert or Salt Flats and the Sevier Basin (refer to figure 3). The salt flats are predominately flat and barren with a high albedo. Although the Sevier Basin is approximately the same size as the salt flats, it is characterized by a series of small mountain ranges and valleys and is oriented in a north-south direction. There is little vegetation in the Sevier Basin except for a coverage of desert shrub in the valleys. These barren mountain slopes heat rapidly during the daytime causing convection and upslope winds which are instrumental in the formation of the local atmospheric circulation between the salt flats and the Sevier Basin. During the night, the opposite situation exists: the mountain slopes cool rapidly and the adjacent air settles. The latter condition is known locally as "drainage" winds and is the cause of another interbasin circulation with the cool air from the Sevier Basin underrunning the air on the salt flats. Dugway Proving Ground lies in the path of one of the drainage channels between the two basins and is, therefore, subjected to northwesterly upslope winds during the daytime and southeasterly drainage winds during the night.

Under light gradient wind conditions drainage winds are usually well established by one or two hours after sundown and continue until solar heating begins the following morning. Under highly radiative conditions, drainage winds attain speeds of 6 to 8 miles per hour. A surface synoptic wind of about 15 miles per hour can completely override the drainage influence. Summaries of winds in the Dugway area are presented in appendix 3 (refer to tables 27 through 39).

Table 14. Direction and Speed (mph) of Peak Gusts

MONTH	1957	1958	1959	1960	1961	1962	1963	1964	1965
January	S 51	N 40	W 43	SSE 38	NNW 30	S 44	WNW 30	S 46	S 50
February	SSE 41	S 40	SSE 51	WNW 52	NW 52	S 45	WSW 38	NNW 40	W 38
March	-	S 61	NNW 58	NW 45	N 50	W 68	S 41	SSW 32	S 30
April	WNW 58	S 58	SSW 46	S 63	SW 56	S 48	S 43	NNW 46	NW 48
May	N 50	SW 48	S 54	N 46	S 58	S 60	SSE 35	S 37	SSW 41
June	SW 50	S 41	WNW 47	W 48	SSE 58	W 44	SSW 35	SSW 40	S 33
July	S 60	S 47	NW 71	WSW 45	SSE 44	W 37	S 35	WNW 33	SW 43
August	WSW 50	ENE 46	SE 50	NW 53	SW 59	S 43	S 50	S 39	S 40
September	S 36	SE 46	SW 38	S 40	SSE 53	NW 32	SSW 30	NNW 37	SW 37
October	S 45	NNW 62	NNE 46	N 47	S 59	S 43	SSW 40	W 40	NE 32
November	NW 41	NW 41	NW 46	SSE 43	NW 51	N 27	S 31	SW 35	S 28
December	NNW 52	NNW 40	NNW 40	N 35	S 47	NNE 28	NW 17	N 50	S 24

Maximum peak gust during period of record was 71 MPH registered on 12 July 1959 at 1911 hours during a thunderstorm.

TABLE 15 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	1.1	0.0	26.9	37.6	23.7	10.8
0200	0.0	0.0	0.0	1.1	19.4	40.9	28.0	10.8
0300	0.0	0.0	0.0	1.1	25.8	37.6	19.4	16.1
0400	0.0	0.0	0.0	2.2	28.0	40.9	16.1	12.9
0500	0.0	0.0	0.0	5.4	25.8	40.9	17.2	10.8
0600	0.0	0.0	1.1	4.3	22.6	45.2	10.8	16.1
0700	0.0	0.0	0.0	2.2	26.9	44.1	19.4	7.5
0800	0.0	0.0	0.0	8.6	26.9	40.9	14.0	19.7
0900	6.5	14.0	14.0	9.7	25.8	21.5	5.4	3.2
1000	23.7	7.5	17.2	10.8	26.9	11.8	1.1	1.1
1100	14.0	20.4	21.5	14.0	21.5	7.5	1.1	0.0
1200	8.6	23.7	29.0	12.9	15.1	8.6	2.2	0.0
1300	2.2	32.3	31.2	11.8	14.0	6.5	2.2	0.0
1400	7.5	30.1	35.5	9.7	14.0	3.2	0.0	0.0
1500	3.2	18.3	40.9	21.5	8.6	6.5	1.1	0.0
1600	2.2	16.1	33.3	24.7	15.1	7.5	1.1	0.0
1700	1.1	7.5	21.5	23.7	29.0	12.9	2.2	2.2
1800	0.0	0.0	0.0	8.6	28.0	34.4	16.1	12.9
1900	0.0	0.0	0.0	1.1	19.4	33.3	15.1	31.2
2000	0.0	0.0	0.0	0.0	16.1	41.9	15.1	26.9
2100	0.0	0.0	0.0	1.1	18.3	38.7	24.7	17.2
2200	0.0	0.0	0.0	1.1	18.3	43.0	22.6	15.1
2300	0.0	0.0	0.0	1.1	17.2	37.6	24.7	19.4
2400	0.0	0.0	0.0	1.1	18.3	47.3	17.2	16.1

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.0	0.0	15.1	35.5	22.6	26.9
0.0	0.0	0.0	0.0	17.2	26.9	21.5	34.4
0.0	0.0	0.0	0.0	19.4	22.6	28.0	30.1
0.0	0.0	0.0	0.0	17.2	36.6	18.3	26.9
0.0	0.0	0.0	3.2	19.4	32.3	16.1	29.0
0.0	0.0	0.0	3.2	21.5	25.8	19.4	30.1
0.0	0.0	0.0	2.2	14.0	38.7	17.2	28.0
0.0	0.0	1.1	3.2	20.4	29.0	23.7	21.5
4.3	10.8	9.7	14.0	22.6	22.6	7.5	7.5
18.3	8.6	18.3	16.1	20.4	11.8	3.2	3.2
14.0	15.1	23.7	17.2	20.4	4.3	3.2	2.2
11.8	24.7	31.2	11.8	8.6	5.4	3.2	1.1
9.3	29.3	33.7	10.8	7.5	5.4	2.2	1.1
7.5	37.6	32.3	12.9	7.5	2.2	0.0	0.0
4.3	31.2	36.6	16.1	6.5	4.3	0.0	0.0
1.1	19.4	37.6	19.4	11.8	9.7	1.1	0.0
0.0	6.5	21.5	26.9	24.7	15.1	3.2	2.2
0.0	0.0	0.0	10.8	25.5	22.6	17.2	23.7
0.0	0.0	0.0	1.1	16.1	26.9	18.3	37.6
0.0	0.0	0.0	0.0	11.8	25.8	22.6	39.8
0.0	0.0	0.0	1.1	11.8	31.2	18.3	37.6
0.0	0.0	0.0	1.1	12.9	29.0	25.8	31.2
0.0	0.0	0.0	0.0	10.8	29.0	26.9	33.3
0.0	0.0	0.0	1.1	15.1	25.8	30.1	28.0

JANUARY

TABLE 16 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\,METERS}$ MINUS $T_{0.5\,METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	7.8	20.3	43.8	15.6	12.5
0200	0.0	0.0	1.5	10.8	15.4	40.0	16.9	15.4
0300	0.0	0.0	1.5	9.2	21.5	29.2	18.5	20.0
0400	0.0	0.0	1.5	7.7	27.7	36.9	15.4	10.8
0500	0.0	0.0	1.6	9.4	26.6	40.6	9.4	12.5
0600	0.0	0.0	0.0	13.8	26.2	35.4	15.4	9.2
0700	0.0	0.0	0.0	10.9	29.7	29.7	25.0	4.7
0800	0.0	1.6	4.7	14.1	25.0	34.4	15.6	4.7
0900	7.7	16.9	12.3	21.5	23.1	15.4	1.5	1.5
1000	10.9	17.2	31.3	15.6	14.1	10.9	0.0	0.0
1100	8.1	22.6	22.6	22.6	11.3	12.9	0.0	0.0
1200	8.2	24.6	29.5	9.8	8.2	11.5	4.9	3.3
1300	8.5	33.9	23.7	6.8	5.1	15.3	0.0	6.8
1400	5.2	29.3	29.3	6.9	10.3	10.3	3.4	5.2
1500	3.4	27.6	31.0	5.2	13.8	12.1	3.4	3.4
1600	3.3	16.7	38.3	13.3	11.7	10.0	5.0	1.7
1700	0.0	6.3	31.3	26.6	15.6	15.6	3.1	1.6
1800	0.0	1.6	9.4	34.4	21.9	23.4	6.3	3.1
1900	0.0	0.0	3.1	10.9	21.9	35.9	10.9	17.2
2000	0.0	0.0	3.1	6.3	28.1	35.9	15.6	10.9
2100	0.0	0.0	0.0	6.3	32.8	46.9	4.7	9.4
2200	0.0	0.0	0.0	6.3	21.9	45.3	17.2	9.4
2300	0.0	0.0	0.0	9.4	21.9	43.8	17.2	7.8
2400	0.0	0.0	1.6	9.4	18.8	40.6	17.2	12.5

	$T_{8\,METERS}$ MINUS $T_{0.5\,METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.0	9.8	9.8	32.8	19.7	27.9
0.0	0.0	1.6	11.3	9.7	30.6	14.5	32.3
0.0	0.0	1.6	9.5	14.3	22.2	19.0	33.3
0.0	0.0	1.6	9.5	11.1	38.1	15.9	23.8
0.0	0.0	1.6	8.1	16.1	35.5	19.4	19.4
0.0	0.0	0.0	14.3	15.9	30.2	20.6	19.0
0.0	0.0	0.0	11.3	22.6	19.4	21.0	25.8
0.0	3.3	1.6	9.8	18.0	27.9	21.3	18.0
13.6	15.3	10.2	16.9	18.6	20.3	5.1	0.0
16.4	9.8	29.5	18.0	8.2	14.7	3.3	0.0
18.6	16.9	27.1	15.3	10.2	11.9	0.0	0.0
17.2	22.4	29.3	10.3	5.2	12.1	3.4	0.0
25.0	35.7	10.7	5.4	7.1	14.3	0.0	1.8
18.1	38.2	18.1	9.1	7.3	7.3	1.8	0.0
14.3	28.6	26.8	7.1	8.9	8.9	3.6	1.8
10.2	20.7	36.2	12.1	6.9	6.9	5.2	1.7
1.6	14.5	29.0	24.2	9.7	14.5	3.2	3.2
0.0	3.2	16.1	22.6	14.5	30.6	6.5	6.5
0.0	0.0	4.8	8.1	22.6	25.8	16.1	22.6
0.0	0.0	3.2	8.1	21.0	30.6	14.5	22.6
0.0	0.0	1.6	3.2	27.4	40.3	12.9	14.5
0.0	0.0	1.6	6.3	15.9	36.5	19.0	20.6
0.0	0.0	3.3	6.6	14.7	26.0	16.4	22.9
0.0	0.0	1.6	8.1	11.3	40.3	11.3	27.4

FEBRUARY

TABLE 17 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	3.5	26.7	46.5	19.8	3.5
0200	0.0	0.0	0.0	3.5	32.9	36.5	20.0	7.1
0300	0.0	0.0	0.0	4.7	30.2	38.4	16.3	10.5
0400	0.0	0.0	0.0	5.7	35.6	32.2	16.1	10.3
0500	0.0	0.0	0.0	4.6	34.5	33.3	14.9	12.6
0600	0.0	0.0	0.0	5.8	34.9	33.7	12.8	12.8
0700	0.0	0.0	1.1	9.2	34.5	41.4	6.9	6.9
0800	10.3	12.6	24.1	18.4	24.1	6.9	3.5	0.0
0900	17.2	19.5	26.4	20.7	9.2	5.7	0.0	1.1
1000	14.3	21.4	34.5	16.7	8.3	3.6	0.0	1.2
1100	18.4	35.5	30.3	6.6	2.6	3.9	2.6	0.0
1200	21.5	38.0	21.5	7.6	3.8	3.8	2.5	1.3
1300	38.3	30.9	13.6	6.2	4.9	4.9	1.2	0.0
1400	34.6	30.9	19.8	3.7	4.9	4.9	0.0	1.2
1500	25.3	38.6	12.0	7.2	6.0	6.0	2.4	2.4
1600	11.8	35.3	24.7	10.6	4.7	5.9	5.9	1.2
1700	4.7	23.3	38.4	11.6	9.3	10.5	2.3	0.0
1800	3.5	4.7	32.6	30.2	18.6	8.1	2.3	0.0
1900	0.0	0.0	2.2	16.7	40.0	27.8	8.9	4.4
2000	0.0	0.0	1.1	2.2	28.9	37.8	14.4	15.6
2100	0.0	0.0	1.1	2.2	27.8	36.7	18.9	13.3
2200	0.0	0.0	1.1	3.4	28.4	40.9	15.9	10.2
2300	0.0	0.0	0.0	3.3	27.8	40.0	16.7	12.2
2400	0.0	0.0	0.0	2.4	30.3	34.8	21.3	11.2

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.0	1.2	18.1	34.9	26.5	19.3
0.0	0.0	0.0	3.7	17.1	40.2	15.9	23.2
0.0	0.0	0.0	2.4	21.7	33.7	21.7	20.5
0.0	0.0	0.0	3.5	18.8	37.6	14.1	25.9
0.0	0.0	0.0	3.5	18.8	42.4	14.1	21.2
0.0	0.0	1.2	2.4	30.1	32.5	13.3	20.5
0.0	1.2	0.0	8.2	20.0	35.3	21.2	14.1
1.2	15.3	25.9	21.2	14.1	18.8	2.4	1.2
15.1	27.9	25.6	14.0	9.3	4.7	3.5	0.0
21.7	26.5	30.1	14.5	1.2	4.8	1.2	0.0
29.3	40.0	20.0	4.0	4.0	1.3	1.3	0.0
44.9	30.8	14.1	3.8	5.7	0.0	0.0	1.3
55.6	28.9	6.7	4.4	3.3	0.0	0.0	1.1
46.8	32.9	11.4	5.1	1.3	1.3	1.3	0.0
42.5	36.2	8.8	5.0	2.5	1.2	1.2	2.5
20.7	42.7	18.3	7.3	3.7	1.2	2.4	3.7
8.3	36.9	28.6	7.1	6.0	8.3	1.2	3.6
1.2	9.5	39.3	26.2	10.7	11.9	0.0	1.2
0.0	1.1	1.1	17.2	30.0	26.4	16.1	8.0
0.0	0.0	1.1	1.1	20.5	35.2	18.2	23.9
0.0	0.0	2.3	1.1	20.5	37.5	20.5	18.2
0.0	0.0	2.3	2.3	20.9	34.9	22.1	17.4
0.0	0.0	1.1	1.1	16.1	33.3	31.0	17.2
0.0	0.0	1.1	1.1	16.1	36.8	21.8	23.0

MARCH

TABLE 18 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	1.1	2.1	12.6	33.7	25.3	25.3
0200	0.0	0.0	1.1	1.1	12.8	37.2	26.6	21.3
0300	0.0	1.1	0.0	3.2	12.8	36.2	25.5	21.3
0400	1.1	0.0	0.0	3.2	17.2	33.3	24.7	20.4
0500	1.1	1.1	0.0	2.1	15.8	35.8	23.2	21.0
0600	1.1	0.0	1.1	4.3	13.8	42.6	20.2	17.0
0700	2.2	9.7	25.8	14.0	20.4	19.4	2.2	6.4
0800	12.0	18.5	32.6	20.7	9.8	6.5	0.0	0.0
0900	6.4	38.7	31.2	15.1	4.3	4.3	0.0	0.0
1000	20.9	39.6	29.7	5.5	2.2	1.1	1.1	0.0
1100	35.1	43.6	17.0	3.2	0.0	1.1	0.0	0.0
1200	50.5	30.5	15.8	1.1	0.0	1.1	1.1	0.0
1300	51.5	35.1	7.2	2.1	2.1	1.0	0.0	1.0
1400	59.2	23.5	9.2	5.1	0.0	1.0	1.0	1.0
1500	55.0	25.0	13.0	3.0	1.0	0.0	1.0	2.0
1600	41.6	32.7	15.8	3.0	2.0	3.0	2.0	0.0
1700	23.7	33.0	23.7	7.2	7.2	3.1	2.1	0.0
1800	5.2	21.9	37.5	19.8	8.3	3.1	4.2	0.0
1900	1.0	2.0	16.2	19.2	27.3	20.2	11.1	3.0
2000	0.0	0.0	0.0	3.1	22.4	29.6	8.2	36.7
2100	0.0	0.0	1.0	1.0	17.3	32.7	18.4	29.6
2200	0.0	0.0	0.0	2.0	18.4	25.5	30.6	23.5
2300	0.0	0.0	1.0	1.0	15.5	24.7	26.8	30.9
2400	0.0	0.0	1.0	1.0	9.3	32.0	28.9	27.8

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	2.1	1.1	6.4	28.7	19.1	42.6
0.0	0.0	2.1	0.0	7.4	27.7	18.1	44.7
0.0	1.1	0.0	3.2	8.5	22.3	29.8	35.1
1.1	0.0	0.0	3.2	8.6	31.2	16.1	39.8
1.1	1.1	0.0	2.1	10.6	26.6	19.1	39.4
1.1	0.0	1.1	3.2	9.7	26.9	21.5	36.6
1.1	5.4	20.7	7.6	17.4	33.7	4.3	9.8
16.3	14.1	27.2	19.6	10.9	12.0	0.0	0.0
19.4	30.1	30.1	10.8	3.2	4.3	0.0	2.2
42.9	31.9	16.5	4.4	2.2	0.0	0.0	2.2
66.0	19.1	11.7	1.1	0.0	1.1	0.0	1.1
70.5	15.8	9.5	1.1	0.0	0.0	1.1	2.1
77.3	9.3	5.2	3.1	0.0	3.1	1.0	1.0
72.4	14.3	6.1	2.0	1.0	0.0	3.1	1.0
72.7	11.1	9.1	3.0	1.0	1.0	0.0	2.0
61.6	19.2	13.1	1.0	1.0	1.0	2.0	1.0
39.6	29.2	15.6	4.2	2.1	5.2	4.2	0.0
10.5	25.3	33.7	11.6	6.3	6.3	5.3	1.1
0.0	4.0	15.2	23.2	15.2	23.2	11.1	8.1
0.0	0.0	0.0	4.1	16.3	25.5	11.2	42.9
0.0	0.0	1.0	2.1	11.3	28.9	14.4	42.3
0.0	0.0	0.0	3.1	14.3	18.4	24.5	39.8
0.0	0.0	2.1	0.0	10.3	23.7	16.5	47.4
0.0	0.0	1.0	1.0	7.2	28.9	18.6	43.3

APRIL

TABLE 19 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	1.4	18.0	33.1	23.0	24.5
0200	0.0	0.0	0.0	1.4	20.1	32.4	22.3	23.7
0300	0.7	0.0	0.0	0.0	20.3	37.0	22.5	19.6
0400	0.0	0.0	0.0	0.0	21.2	35.8	23.4	19.7
0500	0.0	0.0	0.0	0.0	22.5	34.8	20.3	22.5
0600	0.0	0.0	4.4	6.6	26.3	33.6	20.4	8.7
0700	1.5	8.0	30.7	27.0	27.7	5.1	0.0	0.0
0800	1.5	16.1	55.5	17.5	7.3	2.2	0.0	0.0
0900	10.2	36.5	37.2	11.7	2.9	1.5	0.0	0.0
1000	27.7	37.2	26.3	5.8	1.5	1.5	0.0	0.0
1100	43.5	34.8	18.1	2.9	0.7	0.0	0.0	0.0
1200	52.5	29.5	13.7	3.6	0.0	0.0	0.7	0.0
1300	62.6	28.1	7.2	0.7	0.7	0.7	0.0	0.0
1400	65.2	25.5	7.1	0.7	0.7	0.7	0.0	0.0
1500	64.0	23.7	10.8	0.0	1.4	0.0	0.0	0.0
1600	48.9	31.9	13.5	2.1	1.4	2.1	0.0	0.0
1700	32.6	34.8	22.7	5.7	1.4	2.1	0.7	0.0
1800	7.7	25.4	41.5	15.5	7.0	2.1	0.7	0.0
1900	3.0	3.8	21.1	30.1	32.2	8.3	1.5	0.0
2000	0.7	0.7	0.0	6.3	36.4	33.6	11.3	11.2
2100	0.0	0.0	0.0	2.1	29.9	33.3	18.1	16.7
2200	0.0	0.0	0.0	2.1	23.8	35.0	28.0	11.2
2300	0.0	0.0	0.0	1.4	21.1	30.3	29.6	17.6
2400	0.0	0.0	0.0	1.4	18.6	32.9	21.4	25.2

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.7	0.7	14.4	20.9	21.6	41.7
0.0	0.0	1.4	0.0	17.3	19.4	24.5	37.4
0.7	0.0	0.7	0.7	13.0	21.0	25.4	38.4
0.0	0.0	0.0	0.7	13.9	24.8	20.4	40.1
0.0	0.0	0.0	0.7	15.2	21.0	25.4	37.7
0.0	0.0	1.5	5.8	17.5	24.1	25.5	25.5
2.2	8.8	16.1	19.7	28.5	21.2	3.6	0.0
10.3	19.1	37.5	16.2	9.6	6.6	0.7	0.0
28.5	35.0	21.9	10.2	2.9	1.5	0.0	0.0
51.1	29.2	12.4	3.6	2.9	0.7	0.0	0.0
70.3	18.1	8.0	2.2	1.4	0.0	0.0	0.0
75.5	14.4	7.2	2.2	0.0	0.0	0.7	0.0
82.7	12.9	2.9	0.0	0.7	0.7	0.0	0.0
83.0	10.6	2.8	2.1	0.7	0.0	0.0	0.7
75.5	18.7	3.6	0.0	0.7	0.7	0.7	0.0
70.9	15.6	7.1	2.1	1.4	2.1	0.0	0.7
58.2	21.3	13.5	2.1	1.4	2.1	0.7	0.7
19.7	28.9	32.4	9.2	5.6	2.1	0.7	1.4
4.9	6.3	30.8	23.8	21.0	9.8	2.1	1.4
0.7	0.7	1.4	5.6	29.4	30.8	15.4	16.1
0.0	0.0	0.0	2.8	22.2	29.2	13.9	31.9
0.0	0.0	0.0	2.8	18.2	27.3	24.5	27.3
0.0	0.0	0.0	2.1	17.6	20.4	25.4	34.5
0.0	0.0	0.7	1.4	14.3	20.0	22.1	41.4

MAY

TABLE 20 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	0.6	12.3	35.7	26.0	25.3
0200	0.0	0.0	0.0	0.0	14.3	34.4	24.0	27.3
0300	0.0	0.0	0.0	0.0	14.8	31.6	32.3	21.4
0400	0.0	0.0	0.0	0.6	13.0	36.4	21.4	28.6
0500	0.0	0.0	0.0	0.7	13.2	31.6	25.0	29.6
0600	0.7	2.7	10.0	10.7	25.3	31.3	9.3	10.0
0700	4.6	25.5	37.9	17.0	11.1	3.9	0.0	0.0
0800	5.9	35.3	38.6	12.4	4.6	2.0	1.3	0.0
0900	11.5	33.1	38.9	8.9	6.4	0.0	0.6	0.6
1000	23.6	35.0	32.5	7.6	1.3	0.0	0.0	0.0
1100	41.6	29.3	24.0	3.2	1.9	0.0	0.0	0.0
1200	49.7	30.1	16.3	1.3	2.0	0.7	0.0	0.0
1300	60.5	24.2	12.7	1.9	0.0	0.6	0.0	0.0
1400	64.7	23.7	10.9	0.6	0.0	0.0	0.0	0.0
1500	63.1	26.9	9.4	0.0	0.6	0.0	0.0	0.0
1600	59.4	28.1	7.5	3.1	1.2	0.6	0.0	0.0
1700	46.2	30.4	17.7	3.2	2.5	0.0	0.0	0.0
1800	19.6	29.7	34.8	10.8	3.2	1.9	0.0	0.0
1900	6.2	10.0	39.4	25.0	15.0	4.4	0.0	0.0
2000	0.0	0.6	3.8	5.0	38.4	29.6	14.5	8.2
2100	0.0	0.0	0.0	1.2	20.0	28.1	23.8	26.9
2200	0.0	0.0	0.0	0.6	18.4	33.5	22.2	25.3
2300	0.0	0.0	0.0	0.6	15.9	37.6	21.0	24.8
2400	0.0	0.0	0.0	1.3	12.9	34.2	28.4	23.2

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
	< -2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
	0.0	0.6	0.0	0.0	9.0	26.5	20.0	43.9
	0.0	0.6	0.0	0.6	10.3	20.0	24.5	43.9
	0.0	0.0	0.0	0.6	8.4	23.2	20.6	47.1
	0.0	0.0	0.0	0.0	9.9	13.8	27.6	48.7
	0.0	0.0	0.0	0.0	9.9	17.8	25.7	46.7
	0.0	1.3	4.0	6.7	20.0	31.3	16.0	20.7
	12.5	17.8	21.7	13.8	16.4	14.5	3.3	0.0
	21.7	32.9	30.3	5.9	5.3	2.0	0.7	1.3
	40.4	24.4	25.0	4.5	3.8	0.6	0.6	0.6
	55.1	26.3	13.5	3.2	0.6	1.3	0.0	0.0
	69.9	16.3	10.5	2.0	1.3	0.0	0.0	0.0
	75.7	14.5	7.2	2.0	0.7	0.0	0.0	0.0
	81.4	12.2	5.1	0.6	0.0	0.6	0.0	0.0
	83.9	12.3	3.2	0.0	0.6	0.0	0.0	0.0
	88.6	8.2	1.3	1.3	0.6	0.0	0.0	0.0
	80.4	9.5	7.0	1.9	0.6	0.6	0.0	0.0
	66.5	18.4	11.4	2.5	1.3	0.0	0.0	0.0
	47.7	23.2	18.7	4.5	4.5	1.3	0.0	0.0
	10.6	19.4	33.8	16.2	13.1	6.2	0.6	0.0
	0.0	0.6	4.4	7.5	27.7	28.9	18.2	12.6
	0.0	0.0	0.0	1.2	13.8	27.5	22.5	35.0
	0.0	0.6	0.0	0.0	13.3	26.6	18.4	41.1
	0.0	0.0	0.0	0.0	10.3	28.2	21.8	39.7
	0.0	0.0	0.0	0.0	9.0	27.1	19.4	44.5

JUNE

TABLE 21 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	0.0	12.3	23.4	18.1	46.2
0200	0.0	0.0	0.0	0.0	11.2	24.1	25.3	39.4
0300	0.0	0.0	0.0	0.0	11.8	24.1	25.3	38.8
0400	0.0	0.0	0.0	1.2	8.2	25.7	24.0	40.9
0500	0.0	0.0	0.6	0.0	9.9	25.7	21.1	42.7
0600	0.0	0.0	1.7	3.5	21.8	31.2	18.2	23.5
0700	4.2	14.1	38.8	22.9	11.8	5.9	2.4	0.0
0800	12.9	24.1	48.8	10.6	2.9	0.6	0.0	0.0
0900	26.7	21.8	44.2	6.1	1.2	0.0	0.0	0.0
1000	37.5	20.8	38.1	3.0	0.0	0.6	0.0	0.0
1100	45.3	24.2	26.1	2.5	0.6	1.2	0.0	0.0
1200	55.9	28.0	13.7	1.2	0.6	0.6	0.0	0.0
1300	60.6	31.6	6.5	1.3	0.0	0.0	0.0	0.0
1400	68.8	23.6	6.4	0.6	0.0	0.6	0.0	0.0
1500	64.2	27.2	7.4	0.6	0.0	0.6	0.0	0.0
1600	62.6	23.9	10.4	1.8	0.6	0.6	0.0	0.0
1700	50.6	25.9	19.9	1.8	1.2	0.6	0.0	0.0
1800	29.8	25.6	35.7	4.2	3.0	0.6	0.6	0.6
1900	11.8	7.7	43.2	21.9	10.1	4.7	0.6	0.0
2000	0.6	2.4	4.7	14.2	23.7	30.8	10.7	13.0
2100	0.6	0.0	0.0	3.5	14.6	28.1	19.9	33.3
2200	0.6	0.0	0.0	2.3	12.3	29.2	22.2	33.3
2300	0.0	0.0	0.0	0.0	14.0	28.1	22.8	35.1
2400	0.0	0.0	0.0	0.0	11.9	22.6	27.4	38.1

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
	0.0	0.0	0.0	0.0	7.6	15.3	18.8	58.2
	0.0	0.0	0.0	0.0	4.2	16.2	20.4	59.3
	0.0	0.0	0.0	0.0	6.0	16.7	18.5	58.9
	0.0	0.0	0.0	0.0	3.5	16.4	21.1	59.1
	0.0	0.0	0.0	0.0	3.6	18.9	17.8	59.8
	0.0	0.0	0.6	2.4	8.3	25.6	21.4	41.7
	4.2	14.5	29.1	23.6	16.4	6.7	3.0	2.4
	21.4	31.5	35.1	8.3	1.8	0.6	1.2	0.0
	47.2	21.5	26.4	3.7	0.6	0.0	0.0	0.6
	57.8	26.5	13.9	0.6	0.0	0.6	0.0	0.6
	68.8	22.5	6.9	0.0	0.6	0.6	0.6	0.0
	79.2	15.7	3.2	0.6	0.6	0.0	0.0	0.6
	84.4	11.7	2.6	0.6	0.6	0.0	0.0	0.0
	85.9	10.3	1.9	0.6	0.6	0.0	0.6	0.0
	83.2	13.0	2.5	0.0	0.0	0.0	1.2	0.0
	73.8	19.5	4.9	0.0	0.6	0.6	0.6	0.0
	68.1	22.3	7.2	0.0	0.6	1.2	0.6	0.0
	45.8	29.2	17.9	3.0	1.2	1.8	0.0	1.2
	15.0	18.0	41.9	13.8	4.2	6.6	0.0	0.6
	1.2	1.8	8.3	10.7	20.7	26.0	13.6	17.8
	0.6	0.0	1.2	2.4	9.4	24.7	15.9	45.9
	0.0	0.6	0.0	1.8	10.5	18.1	22.2	46.8
	0.0	0.0	0.0	0.6	9.9	15.8	23.4	50.3
	0.0	0.0	0.0	0.6	8.9	17.9	14.9	57.7

JULY

TABLE 22 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	1.2	10.7	36.1	20.7	31.4
0200	0.0	0.0	0.0	0.6	11.1	32.7	22.2	33.3
0300	0.0	0.0	0.0	0.0	11.7	35.3	20.5	32.2
0400	0.0	0.0	0.0	0.6	9.9	31.0	26.9	31.6
0500	2.3	0.6	0.0	1.2	8.8	32.2	25.1	29.8
0600	3.5	0.0	0.0	1.8	10.5	33.9	22.2	28.1
0700	5.9	8.8	20.6	16.5	20.0	20.6	4.7	2.9
0800	17.0	19.9	29.2	23.4	7.6	2.3	0.0	0.6
0900	26.2	27.9	28.5	15.1	1.7	0.0	0.0	0.6
1000	37.1	26.3	24.6	9.1	1.7	0.0	0.0	1.1
1100	51.1	20.1	22.4	4.6	1.1	0.0	0.0	0.6
1200	55.5	22.5	18.5	1.7	1.2	0.0	0.0	0.6
1300	65.5	15.8	15.2	2.4	0.6	0.0	0.0	0.0
1400	65.9	15.9	14.7	1.1	1.2	0.0	0.0	1.2
1500	64.3	17.5	13.5	1.8	1.2	0.6	0.6	0.6
1600	49.7	24.0	19.4	4.0	1.1	1.1	0.0	0.6
1700	32.2	25.9	26.4	6.3	4.0	1.7	1.1	2.3
1800	14.3	16.0	36.6	19.4	5.1	4.0	2.3	2.3
1900	8.1	2.3	20.2	22.5	26.0	11.0	4.0	5.8
2000	0.6	0.0	1.7	3.5	22.0	27.2	13.9	31.2
2100	0.0	0.0	0.6	1.7	13.9	38.7	17.9	27.2
2200	0.0	0.0	0.6	2.9	12.1	32.9	23.7	27.7
2300	0.0	0.0	0.6	1.7	8.1	30.8	32.6	26.2
2400	0.0	0.0	0.6	1.2	9.2	33.5	24.3	31.2

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.0	0.0	9.0	28.7	15.3	47.6
0.0	0.0	0.0	0.0	7.0	29.0	19.0	45.3
0.0	0.0	0.0	0.0	5.8	23.8	18.6	51.7
0.0	0.0	0.0	0.0	7.6	16.3	21.5	54.7
2.3	0.0	0.0	1.2	7.0	15.1	23.3	51.2
4.1	0.0	0.0	1.2	7.6	20.3	23.3	43.6
6.4	3.5	20.5	12.3	15.8	25.1	8.2	8.2
20.3	17.4	24.4	21.5	11.0	2.9	1.7	0.6
36.6	22.7	25.0	10.5	2.9	1.7	0.0	0.6
52.0	22.9	18.3	4.0	1.7	0.0	0.0	1.1
68.0	13.4	16.3	1.2	0.6	0.0	0.0	0.6
73.7	14.6	9.4	1.2	0.6	0.0	0.0	0.6
79.4	10.6	7.6	0.6	0.6	0.6	0.6	0.0
76.8	14.3	5.4	1.2	0.6	0.6	0.0	1.2
74.7	14.1	7.1	1.8	0.6	0.6	0.0	1.2
64.9	17.8	11.5	3.4	0.0	0.6	1.1	0.6
50.0	20.3	17.4	4.1	2.3	1.7	0.0	4.1
18.3	30.3	24.6	12.6	4.6	4.6	2.3	2.9
8.6	3.4	27.6	13.8	22.4	12.6	2.9	8.6
0.0	0.0	2.3	3.5	16.8	26.0	11.6	39.9
0.0	0.0	0.0	2.3	11.0	28.9	21.4	36.4
0.0	0.0	0.0	2.3	9.2	25.3	19.0	44.3
0.0	0.0	0.6	1.1	7.5	19.0	21.3	50.6
0.0	0.0	0.0	1.1	8.0	19.0	20.7	51.1

AUGUST

TABLE 23 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.6	1.2	9.3	30.4	19.9	38.5
0200	0.0	0.0	0.6	0.0	8.6	27.8	19.1	43.8
0300	0.0	0.0	0.6	1.9	8.0	34.0	15.4	40.1
0400	0.0	0.0	0.6	2.5	9.9	28.6	23.0	35.4
0500	0.0	0.0	0.6	0.6	10.6	29.2	24.8	34.2
0600	0.0	0.0	0.0	1.3	11.9	26.4	27.0	33.3
0700	0.6	2.5	5.6	7.5	23.8	33.1	19.4	7.5
0800	23.3	13.2	18.9	17.6	19.5	4.4	3.1	0.0
0900	22.4	25.0	24.4	14.7	9.0	3.8	0.6	0.0
1000	22.8	29.0	24.1	17.9	3.1	2.5	0.6	0.0
1100	35.2	31.5	19.8	9.9	3.1	0.0	0.0	0.6
1200	47.2	28.2	16.6	6.7	1.2	0.0	0.0	0.0
1300	54.9	22.6	17.1	4.3	1.2	0.0	0.0	0.0
1400	52.8	25.2	19.0	1.8	1.2	0.0	0.0	0.0
1500	46.9	27.2	19.8	4.9	1.2	0.0	0.0	0.0
1600	32.9	35.4	21.1	8.1	2.5	0.0	0.0	0.0
1700	12.3	32.7	36.4	11.1	6.2	1.2	0.0	0.0
1800	8.0	6.2	34.6	27.2	17.3	6.8	0.0	0.0
1900	4.4	1.3	5.0	5.6	23.8	28.8	11.9	19.4
2000	0.0	0.0	0.6	0.6	16.1	22.4	21.1	39.1
2100	0.0	0.0	1.2	1.2	7.6	28.6	26.7	34.8
2200	0.0	0.0	1.3	0.6	5.6	33.5	23.8	35.0
2300	0.0	0.0	0.6	1.9	6.2	28.0	22.4	41.0
2400	0.0	0.0	0.6	1.9	8.8	28.9	24.5	35.2

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$							
	< -2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
	0.0	0.0	0.6	1.2	5.6	20.5	14.3	57.8
	0.0	0.0	0.6	0.0	4.9	21.0	13.6	59.9
	0.0	0.0	0.6	1.2	6.2	15.4	17.9	58.6
	0.0	0.0	0.6	1.2	5.0	13.0	23.6	56.5
	0.0	0.0	0.6	0.0	5.6	16.8	18.0	59.0
	0.0	0.0	0.0	0.6	6.8	13.7	21.7	55.9
	1.3	1.3	2.5	1.9	13.1	30.6	22.5	26.9
	15.7	15.7	18.9	16.4	18.2	10.7	2.5	1.9
	28.8	17.3	30.1	9.0	10.3	1.9	1.9	0.6
	38.9	25.9	17.3	9.3	5.6	3.1	0.0	0.0
	54.3	21.6	19.1	2.5	1.9	0.0	0.0	0.6
	65.6	16.0	14.7	1.8	0.6	1.2	0.0	0.0
	70.7	14.0	13.4	1.2	0.6	0.0	0.0	0.0
	71.2	12.9	14.1	1.8	0.0	0.0	0.0	0.0
	67.9	16.0	11.7	3.1	0.6	0.6	0.0	0.0
	59.6	22.4	14.3	2.5	3.7	0.0	0.0	0.0
	29.6	34.6	22.2	4.9	6.8	1.9	0.0	0.0
	9.9	11.7	37.7	19.1	14.8	5.6	1.2	0.0
	3.8	4.4	3.8	4.4	21.3	23.8	15.6	23.1
	0.0	0.0	0.6	0.0	11.2	21.7	13.0	53.4
	0.0	0.0	1.2	0.6	5.0	15.5	24.2	53.4
	0.0	0.0	1.3	0.6	3.8	16.9	21.9	55.6
	0.0	0.0	0.6	1.2	3.1	18.6	14.3	62.1
	0.0	0.0	0.6	1.9	5.0	22.0	13.8	56.6

SEPTEMBER

TABLE 24 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	0.0	12.2	33.9	23.5	30.4
0200	0.0	0.0	0.0	0.0	13.0	34.8	22.6	29.6
0300	0.0	0.0	0.0	0.0	12.3	43.9	21.9	21.9
0400	0.0	0.0	0.0	0.0	14.0	36.0	26.3	23.7
0500	0.0	0.0	0.0	0.0	11.5	35.4	22.1	31.0
0600	0.0	0.0	0.0	0.0	11.4	43.9	26.3	18.4
0700	0.0	0.0	0.0	0.9	25.7	40.7	16.8	15.9
0800	11.5	15.9	15.0	17.7	22.1	11.5	3.5	2.7
0900	19.8	8.1	22.5	30.6	14.4	3.6	0.9	0.0
1000	21.4	20.5	29.5	18.8	8.0	1.8	0.0	0.0
1100	12.8	38.5	36.8	7.7	2.6	1.7	0.0	0.0
1200	17.9	39.3	32.5	8.0	0.9	1.7	0.0	0.0
1300	17.7	44.9	33.1	2.5	0.8	0.8	0.0	0.0
1400	14.7	46.6	31.9	5.2	0.9	0.9	0.0	0.0
1500	16.5	35.7	35.7	8.7	2.6	0.9	0.0	0.0
1600	4.3	32.5	46.2	12.0	5.1	0.0	0.0	0.0
1700	0.9	12.9	37.9	28.5	16.4	3.4	0.0	0.0
1800	0.0	0.9	8.5	14.5	39.3	26.5	6.0	4.3
1900	0.0	0.0	0.0	0.9	14.4	27.1	14.4	43.2
2000	0.0	0.0	0.0	0.8	12.7	28.8	19.5	38.1
2100	0.0	0.0	0.0	0.0	15.3	31.4	30.5	22.9
2200	0.0	0.0	0.0	0.9	12.8	27.4	29.9	29.1
2300	0.0	0.0	0.0	0.0	8.7	32.2	27.8	31.3
2400	0.0	0.0	0.0	0.0	12.9	32.8	25.9	28.4

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.0	0.0	7.0	18.3	14.8	60.0
0.0	0.0	0.0	0.0	7.0	23.5	15.7	53.9
0.0	0.0	0.0	0.0	4.4	22.8	23.7	49.1
0.0	0.0	0.0	0.0	7.9	16.7	21.1	54.4
0.0	0.0	0.0	0.0	4.4	17.7	26.5	51.3
0.0	0.0	0.0	0.0	6.1	19.3	14.0	60.5
0.0	0.0	0.0	0.0	11.5	22.1	23.9	42.5
17.7	5.3	12.4	13.3	18.6	20.4	8.0	4.4
24.1	8.0	30.4	18.8	13.4	3.6	1.8	0.0
27.7	19.6	33.0	10.7	7.1	1.8	0.0	0.0
30.8	33.3	25.6	4.3	4.3	1.7	0.0	0.0
37.6	32.5	26.5	1.7	0.9	0.9	0.0	0.0
41.5	33.1	22.0	1.7	0.8	0.8	0.0	0.0
41.4	31.9	22.4	1.7	1.7	0.9	0.0	0.0
36.5	33.9	22.6	3.5	2.6	0.9	0.0	0.0
18.8	33.3	31.6	11.1	4.3	0.9	0.0	0.0
1.7	19.8	37.1	21.6	17.2	2.6	0.0	0.0
0.0	1.7	8.5	15.4	23.1	32.5	8.5	10.3
0.0	0.0	0.0	0.8	10.2	22.9	11.0	55.1
0.0	0.0	0.0	0.8	10.2	12.7	21.2	55.1
0.0	0.0	0.0	0.0	9.3	16.1	22.0	52.5
0.0	0.0	0.0	0.0	9.3	15.3	16.1	59.3
0.0	0.0	0.0	0.0	6.9	12.9	19.0	61.2
0.0	0.0	0.0	0.0	8.6	14.7	19.0	57.8

OCTOBER

TABLE 25 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.0	0.9	27.7	35.7	20.5	15.2
0200	0.0	0.0	0.0	2.7	29.5	33.0	24.1	10.7
0300	0.0	0.0	0.0	2.7	26.8	36.6	20.5	13.4
0400	0.0	0.0	0.0	4.5	24.1	42.0	14.3	15.2
0500	0.0	0.0	0.0	3.6	32.1	36.6	16.1	11.6
0600	0.0	0.0	0.0	3.6	32.1	34.8	17.0	12.5
0700	0.0	0.0	0.0	4.5	29.5	33.9	24.1	8.0
0800	0.0	0.9	7.1	13.4	40.2	25.9	9.8	2.7
0900	16.8	12.4	7.1	15.0	33.6	13.3	1.8	0.0
1000	14.3	13.4	19.6	17.9	28.6	5.4	0.9	0.0
1100	13.8	18.3	31.2	22.0	12.8	0.9	0.9	0.0
1200	14.8	18.5	38.0	24.1	2.8	1.9	0.0	0.0
1300	10.4	23.6	45.3	13.2	5.7	1.9	0.0	0.0
1400	7.4	20.4	47.2	13.9	9.3	1.9	0.0	0.0
1500	4.6	21.1	44.0	21.1	8.3	0.9	0.0	0.0
1600	5.6	11.1	38.9	21.3	21.3	1.9	0.0	0.0
1700	3.6	4.5	17.3	23.6	37.3	11.8	1.8	0.0
1800	0.0	0.0	1.8	1.8	26.4	26.4	14.5	29.1
1900	0.0	0.0	0.0	0.9	25.5	23.6	8.2	41.8
2000	0.0	0.0	0.0	1.8	20.0	32.7	16.4	29.1
2100	0.0	0.0	0.0	3.6	24.5	30.9	16.4	24.5
2200	0.0	0.0	0.0	1.8	27.3	33.6	24.5	12.7
2300	0.0	0.0	0.0	1.8	22.7	30.9	28.2	16.4
2400	0.0	0.0	0.0	1.8	29.1	30.9	22.7	15.5

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.0	1.8	16.1	19.6	19.6	42.9
0.0	0.0	0.0	3.6	14.3	22.3	23.2	36.6
0.0	0.0	0.9	2.7	13.4	24.1	22.3	36.6
0.0	0.0	0.9	2.7	15.2	25.0	20.5	35.7
0.0	0.0	0.9	2.7	17.0	27.7	17.9	33.9
0.0	0.0	0.0	3.6	15.2	26.8	15.2	39.3
0.0	0.0	0.0	2.7	17.9	23.2	15.2	41.1
0.0	0.0	2.7	13.4	24.9	24.1	17.9	17.0
13.3	10.6	9.7	19.5	27.4	15.0	3.5	0.9
14.3	15.2	25.9	22.3	17.0	3.6	0.9	0.9
13.8	20.2	40.4	15.6	6.4	1.8	0.0	1.8
17.4	18.3	46.8	9.2	3.7	2.8	0.9	0.9
16.0	29.2	36.8	12.3	3.8	0.9	0.9	0.0
11.1	28.7	40.7	9.3	6.5	2.8	0.9	0.0
11.0	21.1	42.2	16.5	7.3	1.8	0.0	0.0
8.3	11.1	39.8	22.2	17.6	0.9	0.0	0.0
3.6	3.6	22.7	26.4	32.7	8.2	1.8	0.9
0.9	0.0	0.0	1.8	22.7	19.1	13.6	41.8
0.0	0.0	0.0	0.9	14.5	23.6	10.9	50.0
0.0	0.0	0.0	1.8	15.5	20.9	15.5	46.6
0.0	0.0	0.0	1.8	13.6	20.0	22.7	41.8
0.0	0.0	0.0	1.8	16.4	20.0	19.1	42.7
0.0	0.0	0.0	2.7	13.6	16.4	24.5	42.7
0.0	0.0	0.0	1.8	18.2	17.3	20.9	41.8

NOVEMBER

TABLE 26 DISTRIBUTION OF DIFFERENTIAL TEMPERATURE (HOURLY AVERAGES IN %)

	$T_{4\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
HOUR	<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0100	0.0	0.0	0.7	3.4	29.3	40.8	15.0	10.9
0200	0.0	0.0	0.7	3.4	26.5	46.3	17.0	6.1
0300	0.0	0.0	2.0	3.4	26.5	44.2	10.9	12.9
0400	0.0	0.0	2.7	4.1	23.1	46.3	16.3	7.5
0500	0.0	0.0	1.4	4.1	27.9	40.8	15.0	10.9
0600	0.0	0.0	1.4	2.7	30.6	42.2	13.6	9.5
0700	0.0	0.0	1.4	4.1	32.2	44.5	13.0	4.8
0800	0.0	0.0	2.7	8.1	37.2	38.5	7.4	6.1
0900	8.8	3.6	14.6	13.9	36.5	19.7	1.5	1.5
1000	7.9	6.4	25.7	19.3	30.7	8.6	0.0	1.4
1100	12.3	13.0	23.2	18.8	26.8	4.3	0.0	1.4
1200	17.5	12.4	26.3	17.5	20.4	2.9	1.5	1.5
1300	19.7	10.9	29.9	17.5	17.5	2.9	0.0	1.5
1400	18.1	10.1	31.2	17.4	19.6	1.4	0.0	2.2
1500	16.4	7.1	34.3	19.3	17.9	1.4	1.4	2.1
1600	14.4	9.4	22.3	18.7	27.3	4.3	1.4	2.2
1700	9.7	3.4	15.9	15.9	35.2	13.1	3.4	3.4
1800	0.0	2.0	2.0	4.0	24.2	25.5	19.5	22.8
1900	0.0	0.0	0.0	3.4	21.5	30.2	25.5	19.5
2000	0.0	0.0	0.0	4.0	23.5	34.9	19.5	18.1
2100	0.0	0.0	0.7	3.4	26.8	37.6	13.4	18.1
2200	0.0	0.0	0.7	2.7	28.2	39.6	14.8	14.1
2300	0.0	0.0	1.4	3.4	30.4	39.9	12.2	12.8
2400	0.0	0.0	1.4	4.1	22.4	46.9	16.3	8.8

	$T_{8\ METERS}$ MINUS $T_{0.5\ METERS}$ (F°)							
<-2.5	-1.5	-0.5	0	0	+0.5	+1.5	>+2.5
0.0	0.0	0.7	2.0	17.0	29.3	22.4	28.6
0.0	0.0	0.7	4.1	15.6	29.9	27.9	21.8
0.0	0.0	2.7	2.7	15.5	27.7	26.4	25.0
0.0	0.0	2.7	2.0	17.7	26.5	27.9	23.1
0.0	0.0	1.4	2.7	15.6	30.6	21.8	27.9
0.0	0.0	1.4	2.0	20.4	30.6	19.7	25.9
0.0	0.0	1.4	2.7	21.9	30.1	21.9	21.9
0.0	0.0	1.4	4.1	21.9	38.4	19.9	14.4
8.3	7.6	11.7	10.3	29.0	22.1	6.2	4.8
10.9	9.5	25.9	15.0	28.6	6.8	2.0	1.4
18.4	11.7	21.8	19.7	19.7	6.8	0.7	1.4
19.2	15.8	25.3	11.6	18.5	5.5	2.1	2.1
17.0	20.0	25.9	14.3	15.6	3.4	2.0	1.4
16.3	13.6	36.1	10.9	14.3	5.4	1.4	2.0
16.2	14.9	27.7	13.5	18.9	5.4	0.7	2.7
15.1	8.2	21.2	19.9	24.7	6.2	2.7	2.1
10.7	3.3	17.3	11.3	28.0	18.7	4.7	5.3
0.7	1.3	2.0	4.0	13.4	24.8	18.1	35.6
0.0	0.0	0.0	2.7	12.1	26.2	18.8	40.3
0.0	0.0	0.0	3.4	14.1	28.9	18.8	34.9
0.0	0.0	0.7	2.0	17.4	32.2	11.4	36.2
0.0	0.0	0.7	2.0	17.4	30.9	19.5	29.5
0.0	0.0	1.4	2.7	17.6	31.8	18.2	28.4
0.0	0.0	1.4	3.4	13.0	30.8	26.7	24.7

DECEMBER

TABLE 27 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: MUD HEN

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	1.7	1.4	1.5	1.6	0.0	0.6	0.0	0.0	0.0	0.4	0.0	0.4	0.0	1.1	0.0	0.3	0.5	0.9	1.9	0.9	1.7	3.7	2.8	2.4
	3-12MPH	8.5	6.3	9.0	5.3	7.2	5.8	9.2	11.5	10.5	13.8	19.5	18.1	12.4	11.0	3.6	7.0	12.7	10.8	10.7	6.0	16.4	13.2	16.6	6.8
	>12 MPH	3.4	1.2	0.0	0.0	9.4	2.6	18.1	14.5	5.3	9.2	13.9	14.4	3.6	6.7	0.6	1.5	9.2	3.0	1.5	1.4	6.6	5.5	2.8	1.7
NORTHEAST	0-3 MPH	2.3	1.4	0.9	0.0	0.6	0.0	0.0	0.3	0.4	0.4	0.0	0.4	0.4	0.0	0.0	0.0	0.5	1.2	3.1	1.4	2.6	2.0	3.5	2.0
	3-12MPH	4.0	1.7	3.7	1.3	0.6	2.9	4.1	5.9	4.8	4.6	7.0	3.6	11.0	4.3	6.4	6.7	10.8	6.9	7.3	4.2	5.1	4.2	3.5	1.7
	>12 MPH	0.3	0.0	0.0	0.6	1.9	0.6	3.4	4.6	1.8	0.4	0.3	0.4	1.1	0.0	0.0	1.2	0.8	0.6	0.4	1.4	1.9	0.0	0.0	0.0
EAST	0-3 MPH	2.3	2.0	0.9	2.8	0.0	0.3	0.0	1.0	0.9	0.0	0.0	0.4	0.4	0.0	0.3	0.0	1.9	0.3	1.5	2.8	3.4	3.3	2.8	1.4
	3-12MPH	2.5	2.0	3.1	2.5	3.5	3.2	6.5	4.3	5.3	3.8	8.4	5.9	4.6	2.1	9.1	5.5	4.6	5.4	5.7	3.3	4.7	1.3	4.6	3.1
	>12 MPH	0.0	0.0	0.0	0.3	0.0	0.0	0.3	0.3	0.4	0.0	0.0	0.0	0.4	1.4	0.3	0.0	0.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0
SOUTHEAST	0-3 MPH	4.0	5.2	1.5	2.8	0.9	1.3	1.0	0.0	0.0	0.4	0.0	1.1	0.0	0.0	1.5	0.0	7.8	4.2	3.8	5.6	4.7	9.5	1.8	3.4
	3-12MPH	11.9	10.3	18.0	17.6	18.2	17.4	12.6	12.5	20.2	9.2	12.5	6.3	10.3	13.5	20.4	10.8	13.5	17.7	14.1	14.0	16.2	11.0	11.3	11.2
	>12 MPH	1.4	0.0	1.2	0.0	1.9	0.3	2.4	1.6	5.3	2.5	0.3	1.5	3.2	8.2	6.1	6.4	0.8	0.0	0.4	0.2	1.9	1.1	2.8	2.0
SOUTH	0-3 MPH	3.4	2.9	5.0	1.3	1.6	1.3	0.7	0.3	0.0	0.4	0.7	0.4	0.7	0.0	0.9	0.3	2.9	3.3	2.3	4.7	4.1	4.4	4.2	6.5
	3-12MPH	17.5	8.3	18.6	13.5	17.6	17.0	7.8	5.3	12.3	12.1	3.8	4.1	17.8	17.0	18.2	15.5	14.6	16.2	6.5	7.9	9.2	4.8	18.0	12.6
	>12 MPH	2.5	2.0	8.7	4.7	6.3	1.6	3.4	1.6	11.8	9.2	4.2	3.0	17.4	13.5	18.5	19.6	6.2	3.0	5.7	5.6	0.4	0.2	3.5	2.4
SOUTHWEST	0-3 MPH	2.0	3.7	1.9	1.3	0.3	1.3	0.0	0.3	0.0	0.0	0.0	0.4	0.4	0.0	0.3	0.0	1.1	0.6	1.9	1.4	1.7	5.1	0.4	3.4
	3-12MPH	2.3	0.6	0.9	1.6	1.2	1.9	1.7	1.6	2.6	4.6	1.7	3.3	2.5	4.3	2.1	4.4	1.1	4.2	2.3	1.4	1.3	2.6	0.7	2.0
	>12 MPH	1.1	0.3	0.3	2.8	2.5	1.3	0.7	0.7	1.3	1.3	0.3	0.0	1.1	2.1	0.3	2.3	0.5	0.3	0.0	0.0	0.0	0.2	0.0	0.0
WEST	0-3 MPH	0.6	4.3	0.3	0.6	0.9	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.3	0.0	0.0	0.4	0.6	2.2	0.7	1.4
	3-12MPH	1.7	2.6	2.8	3.1	2.5	5.1	2.0	3.0	1.8	2.9	0.0	1.8	1.1	2.6	0.6	1.8	2.2	4.2	0.4	3.7	0.4	2.0	0.7	3.1
	>12 MPH	0.0	0.0	0.9	0.3	1.2	1.0	1.4	2.3	1.8	2.1	0.3	0.4	1.1	0.8	0.0	0.0	0.5	0.3	0.4	0.0	0.0	0.0	0.7	1.7
NORTHWEST	0-3 MPH	2.3	4.6	1.9	0.6	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.4	0.4	0.4	0.3	0.0	0.0	1.2	0.0	2.8	1.9	4.6	1.8	7.8
	3-12MPH	9.9	18.7	4.9	15.1	7.2	14.1	15.3	16.8	5.3	13.8	9.4	21.0	1.4	4.6	3.3	8.8	4.1	10.5	18.3	23.3	5.5	12.1	9.9	13.6
	>12 MPH	5.4	8.9	0.9	0.6	6.3	8.0	8.2	7.9	2.2	1.3	6.3	10.7	1.8	0.4	0.9	3.8	0.3	0.0	5.7	3.3	6.0	2.6	0.7	3.7
	VARIABLE	9.3	11.5	13.0	17.9	7.5	12.2	2.0	3.9	5.3	7.5	10.8	2.2	7.8	6.0	6.1	4.4	2.4	4.8	5.7	3.7	3.8	4.6	6.0	6.1

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 28 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: TOWER

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	1.7	2.8	1.6	1.8	1.3	1.8	0.4	1.2	0.4	1.2	0.5	1.5	0.5	0.8	0.4	0.8	1.2	2.5	1.9	3.2	1.6	1.5	2.0	2.5
	3-12 MPH	3.2	1.1	4.8	4.5	7.8	8.0	5.2	6.5	4.0	7.3	6.7	7.7	6.6	6.3	3.5	4.3	5.6	6.3	7.7	5.2	5.1	2.2	2.9	1.5
	>12 MPH	0.1	0.3	3.0	2.2	4.1	1.7	2.6	1.9	0.5	0.7	0.5	0.9	0.2	0.8	0.1	0.7	0.4	0.6	0.5	0.5	1.2	0.6	0.6	0.4
NORTHEAST	0-3 MPH	0.6	1.8	0.8	1.0	0.5	1.2	0.0	1.0	0.1	0.4	0.4	1.7	0.2	0.7	0.2	0.8	0.6	1.5	0.5	1.4	0.3	0.5	0.4	1.3
	3-12 MPH	1.0	1.2	0.7	1.7	1.8	3.8	2.8	5.0	0.7	4.5	2.6	7.7	1.6	5.6	0.8	4.4	2.1	3.9	1.1	1.9	1.2	0.9	0.4	0.4
	>12 MPH	0.0	0.0	0.9	0.3	1.0	0.5	0.3	1.4	0.3	1.0	0.1	1.5	0.1	0.7	0.1	0.6	0.1	0.2	0.0	0.0	0.0	0.0	0.1	0.0
EAST	0-3 MPH	1.2	4.3	0.7	1.8	0.5	1.8	0.5	1.9	0.2	2.3	0.1	2.4	0.3	1.3	0.7	1.5	1.4	4.2	0.9	4.8	0.6	2.5	1.1	3.9
	3-12 MPH	1.1	1.8	0.9	2.0	1.0	2.7	1.7	5.2	1.4	5.6	1.0	4.1	1.0	6.9	1.2	6.8	1.4	5.0	1.1	3.0	0.5	1.8	0.6	1.4
	>12 MPH	0.0	0.0	0.0	0.1	0.1	0.3	0.5	0.2	0.2	0.3	0.0	0.7	0.3	0.6	0.2	0.3	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0
SOUTHEAST	0-3 MPH	10.5	15.0	3.5	6.9	2.1	6.4	1.6	6.0	1.0	4.8	1.5	5.7	1.0	3.1	0.9	3.1	3.5	8.2	4.5	9.7	5.9	13.4	7.8	17.5
	3-12 MPH	22.1	24.4	20.1	29.8	12.8	24.1	6.3	20.5	9.2	19.4	5.0	17.0	9.4	28.5	11.8	32.6	6.6	18.3	10.4	17.0	12.9	18.5	16.8	22.6
	>12 MPH	2.4	2.2	7.0	5.3	4.3	2.0	2.1	3.0	4.2	3.1	0.7	0.7	2.5	1.8	4.2	4.6	2.3	1.7	3.0	1.6	2.1	0.4	1.7	2.4
SOUTH	0-3 MPH	4.9	5.5	3.3	3.5	2.0	3.1	0.8	2.2	1.3	1.8	1.6	2.8	0.9	1.0	1.0	1.4	2.7	3.8	2.4	3.7	3.4	3.3	5.4	5.3
	3-12 MPH	10.0	5.2	10.4	7.3	11.4	8.4	10.4	5.7	10.2	6.0	12.7	8.7	17.2	10.8	23.7	12.8	8.8	5.1	8.8	4.5	8.0	3.8	9.9	3.9
	>12 MPH	2.2	1.1	7.3	2.9	5.6	1.2	8.2	2.5	7.3	2.1	9.4	2.1	6.5	2.1	9.6	3.6	5.9	0.9	3.2	0.7	2.3	0.3	3.5	2.9
SOUTHWEST	0-3 MPH	2.1	1.3	1.1	0.6	1.1	0.5	0.7	0.5	1.0	1.2	1.2	1.6	0.8	0.5	1.0	0.4	2.0	1.6	1.8	1.2	0.9	0.8	1.7	1.1
	3-12 MPH	0.9	0.4	1.4	0.6	4.3	1.8	4.5	1.3	4.5	1.4	7.3	2.5	9.5	3.5	8.5	2.1	6.5	2.3	2.3	1.1	1.0	0.3	0.7	0.4
	>12 MPH	0.1	0.4	0.7	0.1	2.8	0.5	3.6	1.5	2.2	0.6	3.5	0.9	2.6	0.6	3.8	0.5	1.9	0.2	0.4	0.1	0.0	0.1	0.5	0.3
WEST	0-3 MPH	1.7	0.8	1.0	0.3	0.5	0.5	0.5	0.5	0.7	0.4	1.3	1.1	0.6	0.2	0.6	0.4	1.2	1.1	1.4	1.1	0.9	0.6	2.4	1.5
	3-12 MPH	1.8	0.7	0.8	0.1	2.6	2.1	2.7	1.3	5.9	1.8	5.9	2.1	6.2	1.6	5.6	1.1	3.3	1.3	2.7	0.6	1.2	1.0	1.1	0.4
	>12 MPH	0.3	0.1	0.0	0.1	1.5	0.6	0.9	0.2	0.8	0.3	0.6	0.4	0.3	0.2	0.8	0.2	0.3	0.0	0.1	0.0	0.1	0.0	0.1	0.1
NORTHWEST	0-3 MPH	6.2	3.7	3.8	3.4	1.5	1.2	2.6	3.9	1.4	2.1	2.4	2.9	1.4	0.9	1.4	0.9	3.0	2.1	5.6	3.3	5.8	2.6	9.6	3.0
	3-12 MPH	11.4	4.4	11.0	4.5	14.0	6.4	25.6	11.2	24.1	12.3	23.8	11.3	19.5	6.1	13.8	4.4	22.5	5.0	23.5	4.3	16.2	5.1	13.3	4.9
	>12 MPH	0.8	0.0	4.7	3.5	5.3	2.8	8.2	2.1	7.8	3.2	4.5	1.4	1.5	0.3	0.1	0.1	1.3	0.3	2.0	1.9	1.9	0.5	1.8	0.8
	VARIABLE	14.2	21.6	10.7	15.7	10.0	16.9	7.0	13.0	10.4	16.1	6.9	10.4	9.1	14.9	5.9	11.6	15.5	23.9	14.1	29.2	26.9	39.5	15.8	21.7

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 29 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: TARGET "S"

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	5.1	3.0	2.5	4.2	1.9	3.4	1.5	2.4	1.4	3.4	0.8	1.6	1.3	1.4	0.7	2.1	2.7	3.8	4.6	4.0	3.9	3.0	4.6	2.7
	3-12MPH	5.8	1.8	8.6	8.3	12.6	8.1	14.2	9.9	10.5	8.4	10.3	7.3	11.1	6.7	7.9	4.4	13.4	5.9	11.9	5.9	10.7	4.5	4.5	3.4
	>12 MPH	0.2	0.3	2.7	1.1	4.4	1.3	5.1	1.4	3.9	1.7	1.1	0.8	0.1	0.1	0.1	0.4	2.4	0.4	2.6	2.2	3.4	0.8	1.2	0.6
NORTHEAST	0-3 MPH	2.9	2.1	1.5	1.3	0.7	1.9	1.2	2.8	0.4	1.7	0.9	1.3	0.5	1.7	0.6	2.4	1.7	3.4	2.3	1.7	1.6	0.6	2.7	2.2
	3-12MPH	1.8	1.0	2.9	1.4	2.8	2.2	5.7	3.4	4.1	4.0	7.2	4.7	4.9	3.4	4.7	2.8	5.9	3.5	4.2	2.1	1.7	1.3	2.8	2.4
	>12 MPH	0.0	0.0	0.6	0.2	0.3	0.1	0.6	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.2	1.0	0.3	0.3	0.5	0.1	0.1	1.1	0.1
EAST	0-3 MPH	3.7	4.0	2.2	2.6	2.1	4.5	1.3	3.8	1.0	4.9	0.4	2.7	0.6	3.6	2.0	4.2	3.0	6.3	2.5	4.0	2.3	1.5	3.1	6.2
	3-12MPH	1.3	1.2	3.0	3.1	3.4	2.4	4.5	2.0	3.6	4.1	3.7	4.1	2.0	2.5	1.4	3.4	2.6	3.6	1.8	2.2	1.3	0.6	2.8	2.4
	>12 MPH	0.1	0.1	0.0	0.1	0.1	0.0	0.4	0.1	1.0	0.3	0.1	0.1	0.1	0.1	0.0	0.1	1.4	0.4	0.1	0.0	0.1	0.0	0.6	0.1
SOUTHEAST	0-3 MPH	6.4	8.8	5.1	6.8	6.5	9.8	2.9	8.1	2.1	6.5	0.7	4.7	1.1	6.0	2.7	6.8	3.7	10.0	3.1	6.7	4.0	8.0	5.8	7.2
	3-12MPH	6.9	6.8	12.1	12.7	8.0	6.0	5.7	6.6	7.5	10.6	6.1	5.9	10.3	16.3	12.8	18.0	5.9	10.5	5.1	7.6	6.4	6.0	8.9	6.2
	>12 MPH	0.8	0.6	1.0	1.0	0.8	0.5	0.3	0.1	0.6	0.1	0.7	0.6	0.5	0.8	1.5	0.8	1.0	0.8	2.1	0.4	0.7	0.2	2.3	1.8
SOUTH	0-3 MPH	4.4	4.8	3.0	3.6	3.2	5.1	1.9	5.2	1.7	5.6	1.1	3.4	2.1	3.0	3.0	4.1	3.3	5.9	3.3	5.9	3.7	4.9	3.1	4.8
	3-12MPH	1.7	2.0	5.6	4.8	7.1	4.6	6.1	6.2	8.5	5.6	7.4	6.4	9.6	9.0	11.8	12.3	4.8	6.5	5.7	5.3	4.7	3.9	3.9	3.4
	>12 MPH	0.5	0.9	3.3	1.5	1.8	0.9	2.1	1.3	2.1	0.7	2.0	1.0	0.3	0.3	2.1	1.7	1.6	0.7	1.1	0.1	1.6	1.3	0.5	1.7
SOUTHWEST	0-3 MPH	4.6	4.3	2.9	2.9	3.2	3.7	1.8	3.2	2.1	2.6	1.6	2.4	2.0	2.1	2.7	1.5	2.6	3.1	3.4	2.6	2.9	3.1	4.1	4.2
	3-12MPH	2.5	1.6	5.2	3.3	6.9	4.5	7.3	5.0	7.1	4.6	9.5	4.3	11.6	6.4	10.3	6.3	6.9	3.1	3.2	2.9	3.1	1.9	4.3	1.7
	>12 MPH	0.8	0.5	1.2	0.9	1.9	0.7	3.0	1.3	3.5	1.0	1.5	0.6	0.7	0.2	4.2	1.7	1.9	0.9	0.6	0.2	0.2	0.1	0.5	0.5
WEST	0-3 MPH	5.6	3.7	2.6	2.1	2.6	1.8	2.8	2.4	2.3	2.0	2.3	1.4	2.9	1.7	2.8	1.0	3.5	2.3	4.2	3.6	5.0	1.9	5.2	4.0
	3-12MPH	3.0	1.7	3.4	1.8	4.5	3.2	6.3	2.7	6.5	2.4	7.8	2.9	9.3	3.4	7.1	2.4	7.0	2.6	5.9	3.8	4.1	1.7	5.0	4.5
	>12 MPH	0.2	0.0	0.1	0.2	0.7	0.6	0.7	0.2	0.8	0.1	0.8	0.2	0.1	0.0	0.5	0.2	0.8	0.4	0.3	0.0	0.0	0.1	0.4	0.5
NORTHWEST	0-3 MPH	6.7	4.5	2.0	3.5	2.9	3.2	1.8	3.7	3.2	2.4	2.7	1.3	1.8	1.6	2.3	1.2	3.8	2.4	5.7	4.2	5.8	4.5	5.2	3.9
	3-12MPH	9.6	6.8	8.6	7.8	10.2	7.7	12.4	9.8	12.4	6.0	15.7	8.9	9.1	4.6	8.4	3.3	12.0	4.6	8.3	5.3	8.9	6.0	7.3	6.3
	>12 MPH	0.2	0.2	4.5	3.1	2.3	1.1	2.4	1.9	2.2	1.3	2.0	2.2	0.8	0.3	0.5	0.2	0.4	0.1	0.3	0.2	1.9	0.9	1.1	0.8
	VARIABLE	25.2	39.5	15.4	21.9	9.0	22.7	7.7	16.1	12.3	20.2	13.7	31.0	17.2	24.8	10.1	18.7	8.2	20.6	11.5	28.2	21.7	43.1	19.1	28.4

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 30 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: RIVER ISLE

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	1.8	0.9	1.0	1.2	0.4	1.0	0.4	1.4	1.1	0.9	0.2	0.7	0.1	0.1	0.3	0.1	1.9	1.8	1.9	2.2	2.2	0.8	3.2	1.7
	3-12 MPH	6.0	1.7	5.5	2.9	7.9	5.1	5.6	6.4	7.8	7.7	8.9	7.4	6.9	6.2	3.6	3.9	11.3	6.3	13.6	5.9	9.2	2.1	4.9	2.4
	>12 MPH	0.9	0.4	6.1	4.2	4.5	2.4	3.0	1.8	4.0	1.9	2.4	0.8	0.9	1.1	0.2	0.4	1.8	0.7	1.8	1.8	4.1	1.4	2.1	1.2
NORTHEAST	0-3 MPH	0.8	0.6	0.7	0.6	0.3	0.8	0.3	1.3	0.7	1.2	0.4	0.7	0.3	0.2	0.2	0.4	1.0	1.3	0.7	1.1	0.8	0.8	0.9	1.0
	3-12 MPH	1.3	1.3	1.7	1.2	2.0	2.8	4.4	4.3	1.8	4.3	3.4	5.9	3.1	5.4	2.3	5.2	4.9	3.9	3.0	2.4	1.4	1.0	0.8	0.7
	>12 MPH	0.1	0.0	0.7	0.1	2.0	1.8	0.9	0.9	0.6	0.8	0.2	1.0	0.9	1.3	0.2	0.5	0.3	0.2	0.4	0.1	1.4	0.4	0.0	0.0
EAST	0-3 MPH	0.7	1.7	0.8	1.0	0.6	1.5	1.0	3.6	0.5	1.2	0.9	1.6	0.1	0.2	0.2	0.4	1.4	1.5	0.5	1.0	0.7	0.8	0.6	1.2
	3-12 MPH	1.0	1.3	1.0	1.7	1.9	2.7	2.8	3.1	2.5	4.1	2.6	4.3	2.6	5.5	1.0	3.8	1.4	3.4	2.0	2.0	0.8	1.5	0.3	0.5
	>12 MPH	0.2	0.0	0.0	0.0	0.2	0.1	0.4	0.1	0.1	0.2	0.0	0.2	0.8	0.3	0.1	0.1	0.0	0.0	0.4	0.2	0.2	0.0	0.0	0.1
SOUTHEAST	0-3 MPH	4.5	6.1	3.5	4.0	2.3	4.2	2.1	5.6	1.8	4.8	1.9	4.9	0.6	0.6	0.8	1.7	4.4	5.0	3.5	4.4	3.6	4.1	4.4	5.0
	3-12 MPH	10.1	14.2	15.4	17.1	11.8	17.3	8.1	14.8	9.6	18.4	9.9	20.7	11.1	17.5	7.9	15.6	9.4	13.1	9.0	16.6	8.1	15.1	9.3	14.4
	>12 MPH	4.8	3.3	6.3	3.0	1.8	1.1	1.9	0.7	2.4	1.5	1.1	0.7	1.9	1.5	2.1	1.6	0.5	0.9	2.7	1.3	3.2	2.5	3.3	3.6
SOUTH	0-3 MPH	3.1	6.8	1.6	3.3	1.0	3.4	1.4	2.2	0.6	2.7	0.7	2.3	0.3	1.7	0.4	0.7	1.9	5.6	3.7	7.7	2.5	5.0	2.3	6.2
	3-12 MPH	17.5	17.6	8.7	14.2	12.6	17.1	7.2	13.8	11.0	11.9	11.3	14.7	14.3	23.8	21.8	29.6	16.4	19.9	11.1	17.9	13.0	19.4	12.7	16.1
	>12 MPH	15.1	13.3	13.5	13.5	12.0	8.4	12.7	8.1	9.9	5.1	11.7	4.7	15.2	11.2	13.2	11.2	2.6	2.2	5.1	2.2	12.2	9.7	14.3	10.4
SOUTHWEST	0-3 MPH	0.8	2.1	0.4	1.2	0.5	0.7	0.6	0.7	0.7	1.0	0.4	0.6	0.2	0.4	0.3	0.3	0.7	1.0	1.0	2.4	1.1	1.3	1.5	2.4
	3-12 MPH	2.7	1.6	1.3	1.0	2.1	2.1	3.3	2.3	3.6	2.5	4.9	3.1	10.8	3.9	8.8	6.6	6.2	3.0	2.2	2.9	2.4	0.8	0.9	2.0
	>12 MPH	0.9	1.2	1.0	0.6	2.0	1.4	4.3	3.0	3.4	1.0	2.9	1.9	2.4	1.7	6.1	1.6	1.6	0.6	1.5	1.0	0.6	0.3	0.6	0.7
WEST	0-3 MPH	1.2	1.9	0.2	1.0	0.5	1.5	0.3	0.8	0.5	1.0	0.2	0.4	0.2	0.2	0.2	0.4	1.4	0.7	1.0	0.8	1.1	0.9	2.4	3.1
	3-12 MPH	2.1	2.3	2.7	1.3	2.8	2.6	4.1	3.0	4.8	2.2	4.8	2.3	5.3	1.9	7.7	2.0	3.7	2.5	4.8	1.5	3.1	1.5	4.7	1.8
	>12 MPH	0.1	0.0	0.1	0.0	1.0	0.4	0.9	0.3	0.4	0.3	0.2	0.1	0.7	0.2	0.2	0.0	0.1	0.0	0.3	0.1	0.1	0.1	0.3	0.1
NORTHWEST	0-3 MPH	4.0	2.3	3.0	2.2	1.6	1.6	1.7	1.2	1.4	1.6	0.8	0.8	0.3	0.1	0.9	0.5	5.2	3.2	3.6	3.4	2.9	1.1	4.1	3.5
	3-12 MPH	11.5	6.0	12.1	8.4	15.2	7.3	13.7	10.1	17.3	9.5	18.1	10.2	15.0	7.4	14.8	5.3	11.2	7.6	14.5	8.3	9.8	3.4	10.3	4.5
	>12 MPH	1.8	1.6	5.7	5.3	7.1	3.3	9.0	3.9	7.8	4.6	6.1	4.7	3.7	2.2	0.5	0.1	1.2	0.6	3.2	1.3	0.8	0.3	2.1	1.6
	VARIABLE	6.9	11.9	7.6	10.9	4.9	9.6	4.9	6.5	5.8	9.4	5.7	6.0	6.1	6.2	6.0	8.0	8.5	15.0	8.5	11.4	14.7	25.9	13.0	15.7

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 31 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: HORIZONTAL GRID

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	2.6	1.5	2.9	1.5	2.2	0.9	1.2	0.9	2.1	1.1	1.2	1.0	0.8	1.0	0.9	0.4	2.5	1.5	3.5	2.1	3.0	1.3	2.1	1.3
	3-12 MPH	7.9	4.2	11.5	8.1	15.0	11.1	12.6	7.9	14.6	8.0	15.2	9.6	15.6	7.8	8.9	4.9	16.5	8.8	18.1	7.7	13.1	6.2	4.0	3.6
	>12 MPH	0.6	0.5	4.2	2.1	7.2	4.2	3.8	2.4	5.4	3.9	3.3	3.2	1.3	1.7	0.4	1.4	1.3	0.6	1.6	1.6	3.6	1.4	1.0	0.3
NORTHEAST	0-3 MPH	2.6	1.7	1.4	1.0	0.7	0.5	0.6	1.4	2.0	1.3	1.0	2.3	0.5	1.0	0.3	0.3	1.3	0.8	2.7	1.2	1.2	1.3	1.2	1.0
	3-12 MPH	5.8	3.7	3.9	1.7	3.0	2.4	3.8	3.0	5.1	2.9	5.3	3.7	8.2	6.0	8.3	4.6	6.8	3.6	5.1	3.2	3.6	2.2	1.1	1.3
	>12 MPH	0.8	0.4	0.1	0.1	0.1	0.1	0.1	0.2	0.4	0.3	0.2	0.2	0.0	0.2	0.0	0.1	0.2	0.2	0.0	0.0	0.1	0.0	0.0	0.0
EAST	0-3 MPH	3.2	4.7	1.3	1.8	1.2	3.0	1.1	4.4	1.9	5.1	1.1	2.8	0.4	3.0	0.8	1.1	1.9	3.3	3.2	4.1	2.5	3.8	4.2	5.0
	3-12 MPH	7.0	8.7	4.8	10.1	5.4	10.0	3.5	7.2	3.7	7.9	3.1	8.2	5.5	10.6	4.5	12.4	6.0	8.4	5.2	7.9	6.8	9.5	5.0	7.8
	>12 MPH	0.7	0.3	0.0	0.1	0.2	0.0	0.1	0.1	0.3	0.1	0.2	0.0	0.4	0.3	0.4	0.0	0.6	0.0	0.0	0.1	0.0	0.0	0.0	0.0
SOUTHEAST	0-3 MPH	4.3	7.9	2.2	4.3	1.5	3.3	1.4	3.6	1.7	5.6	1.2	4.5	1.2	2.9	0.7	1.7	2.9	3.7	3.2	5.2	3.3	5.4	4.9	6.7
	3-12 MPH	17.6	20.1	19.3	20.4	15.1	18.6	8.0	15.1	8.5	14.4	7.7	13.5	12.5	20.4	12.3	26.9	7.9	15.9	9.2	13.7	13.8	16.0	19.9	18.5
	>12 MPH	4.1	1.1	3.0	2.2	1.7	0.5	3.0	0.6	1.6	0.7	1.7	0.6	1.1	1.4	6.0	4.0	0.8	0.1	2.1	0.9	2.4	0.7	4.8	3.5
SOUTH	0-3 MPH	2.1	3.7	2.0	3.0	1.3	1.8	1.4	3.5	3.3	5.4	1.0	5.4	0.7	1.9	0.8	2.9	1.3	3.2	1.5	3.2	1.3	2.7	1.9	3.4
	3-12 MPH	5.7	7.8	8.6	8.4	9.6	5.9	10.6	11.4	8.7	10.0	11.2	10.1	15.0	12.2	15.5	13.9	7.3	11.3	5.7	7.3	5.3	5.5	5.3	5.1
	>12 MPH	1.3	1.1	2.8	1.0	3.6	1.3	6.1	2.6	4.7	1.4	5.4	1.6	0.9	0.9	8.0	2.9	2.0	0.4	1.0	0.5	0.7	0.6	1.7	2.3
SOUTHWEST	0-3 MPH	1.2	2.4	0.7	1.3	0.2	1.6	0.7	2.3	1.1	1.9	0.7	2.8	0.5	1.7	0.4	0.4	0.5	1.8	1.1	3.2	0.8	1.6	1.7	1.7
	3-12 MPH	1.9	2.0	1.8	1.5	1.8	3.1	3.3	2.4	3.3	2.5	4.5	4.2	7.2	4.9	5.6	4.1	4.6	4.4	2.8	2.5	1.4	2.7	1.5	1.4
	>12 MPH	0.4	0.1	0.8	0.3	1.1	1.0	1.4	1.6	0.7	0.3	0.9	0.7	0.8	0.4	2.1	0.6	0.8	0.1	0.4	0.5	0.2	0.2	0.1	0.1
WEST	0-3 MPH	2.1	3.0	0.7	0.9	0.5	1.2	0.9	2.5	1.2	1.6	0.7	2.4	0.7	0.9	0.3	0.7	0.8	1.8	1.3	2.6	1.2	2.4	2.1	2.2
	3-12 MPH	3.6	4.1	1.9	4.2	3.8	5.0	3.8	3.4	4.2	4.6	3.9	3.6	3.6	3.7	3.6	3.3	4.3	4.8	3.5	5.4	2.8	4.3	2.9	5.0
	>12 MPH	0.2	0.0	0.0	0.0	0.6	0.2	1.0	0.6	0.4	0.1	0.2	0.0	0.2	0.2	0.3	0.1	0.3	0.0	0.5	0.3	0.0	0.0	0.0	0.0
NORTHWEST	0-3 MPH	3.2	1.9	2.7	2.1	1.5	1.8	1.4	3.0	3.0	2.8	2.5	2.4	0.8	1.2	1.5	0.7	2.4	1.5	3.4	2.3	4.1	2.9	4.7	3.9
	3-12 MPH	13.0	6.5	12.9	10.5	14.6	9.8	22.2	13.2	17.9	10.8	19.0	10.2	15.1	8.4	12.5	5.3	18.4	9.5	15.8	10.0	15.5	9.6	14.2	6.9
	>12 MPH	0.3	0.2	3.1	2.7	2.4	1.9	4.5	3.5	0.5	3.6	2.2	1.4	1.3	1.0	0.7	0.6	2.2	0.3	1.7	1.1	2.2	0.9	1.2	0.7
	VARIABLE	7.9	12.5	7.4	10.7	5.8	10.8	3.5	4.4	3.5	3.6	6.8	5.6	5.8	8.2	5.0	6.4	6.3	13.7	7.1	13.4	11.1	18.9	11.5	18.3

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 32 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: BLACK ROCK

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	2.5	2.2	0.5	0.6	0.5	0.6	0.7	1.1	0.1	0.8	0.8	0.[illegible]	0.9	0.2	0.6	0.7	1.2	1.0	1.7	1.3	1.4	1.3	3.2	2.1
	3-12 MPH	18.6	10.2	11.0	7.0	11.5	8.3	13.9	11.6	18.1	11.7	16.0	[illegible]	6.8	5.0	4.8	3.7	11.3	5.2	16.2	9.4	13.4	8.7	18.4	10.1
	>12 MPH	2.5	1.1	4.4	3.0	10.2	4.0	5.8	3.1	4.9	2.2	4.5	[illegible]	1.1	0.2	0.3	0.3	0.6	0.3	3.3	2.2	4.2	1.4	3.3	0.8
NORTHEAST	0-3 MPH	2.5	1.6	0.6	0.4	0.5	0.3	0.3	0.4	0.2	0.5	0.4	0.4	0.1	0.2	0.1	0.1	0.9	0.6	0.6	0.4	1.5	0.3	1.5	1.4
	3-12 MPH	5.2	3.7	4.4	4.0	6.4	2.6	6.5	3.6	3.3	2.7	2.1	2.0	2.1	1.5	1.9	2.1	5.5	1.5	5.8	1.8	4.9	2.0	4.3	2.8
	>12 MPH	0.0	0.0	0.0	0.1	1.6	1.3	0.4	0.5	0.4	0.2	0.3	0.4	0.0	0.1	0.2	0.2	0.0	0.1	0.4	0.0	0.4	0.1	0.1	0.0
EAST	0-3 MPH	2.0	0.5	0.3	0.2	0.3	0.1	1.0	0.2	0.1	0.4	0.5	0.2	0.1	0.1	0.1	0.3	0.6	0.6	0.2	0.3	0.7	0.3	0.5	0.4
	3-12 MPH	0.6	0.7	1.0	0.9	2.0	1.1	2.5	2.5	1.9	0.9	1.6	0.6	2.0	1.9	2.3	1.7	2.3	1.3	1.9	1.1	1.3	0.8	0.6	0.3
	>12 MPH	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.5	0.4	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.3	0.1	0.0	0.3	0.0	0.0
SOUTHEAST	0-3 MPH	2.4	2.6	1.9	1.2	1.8	1.2	1.1	1.0	1.0	0.6	0.6	1.1	0.4	1.0	0.7	1.5	2.3	2.3	1.6	1.5	2.9	2.4	2.0	2.4
	3-12 MPH	4.2	4.4	9.2	5.5	10.1	10.1	6.3	5.2	5.9	4.9	5.4	4.5	5.7	11.7	8.3	11.8	7.5	9.5	4.6	6.4	6.0	6.5	3.0	4.4
	>12 MPH	4.6	3.5	7.6	6.5	2.9	2.0	3.0	2.5	2.4	2.3	3.6	3.0	4.6	6.3	6.7	8.1	1.7	3.8	2.9	2.9	3.8	2.4	2.1	3.4
SOUTH	0-3 MPH	6.2	8.0	4.3	4.2	1.9	2.8	2.0	1.6	2.3	3.5	3.0	5.2	2.8	3.7	2.2	2.1	3.7	4.2	4.0	5.9	5.3	5.3	6.8	9.1
	3-12 MPH	16.9	20.6	17.8	27.2	18.9	20.1	13.7	18.9	16.3	20.7	11.2	12.3	15.4	18.9	17.8	21.2	15.0	20.7	16.1	23.0	16.4	20.1	12.9	15.9
	>12 MPH	6.8	6.7	10.7	6.8	7.7	3.2	12.8	6.8	11.6	7.1	13.0	6.7	15.0	4.7	21.6	13.0	11.6	5.2	7.4	3.7	3.2	2.3	9.2	5.9
SOUTHWEST	0-3 MPH	2.5	4.6	1.2	1.0	0.4	0.8	0.4	1.6	0.1	0.3	0.3	1.1	1.4	2.3	0.7	0.4	1.1	1.5	0.9	1.5	1.0	1.7	2.1	3.9
	3-12 MPH	3.3	5.2	4.2	5.3	3.1	10.6	2.7	5.7	2.4	5.1	1.6	6.5	3.9	6.2	3.5	7.4	3.4	5.6	3.6	6.3	2.9	6.7	5.6	6.4
	>12 MPH	1.1	2.1	0.6	1.3	1.5	0.9	2.5	2.2	0.9	0.5	2.6	1.9	1.5	1.1	3.9	1.5	0.9	0.6	1.4	0.6	0.5	0.9	2.0	0.6
WEST	0-3 MPH	0.2	0.5	0.2	0.5	0.1	0.4	0.1	0.9	0.2	1.2	0.3	0.6	0.2	0.9	0.0	0.6	0.4	0.9	0.6	0.4	0.2	0.7	0.4	0.4
	3-12 MPH	0.2	0.3	0.6	0.5	1.0	3.2	1.4	1.3	2.8	3.5	1.7	3.7	6.4	6.5	2.0	4.9	3.3	7.9	1.5	1.9	2.0	2.4	6.9	0.7
	>12 MPH	0.1	0.0	0.0	0.1	0.4	0.4	1.0	0.4	0.5	0.4	0.3	1.1	0.7	0.3	0.2	0.3	0.9	0.2	0.1	0.0	0.4	0.2	0.4	0.0
NORTHWEST	0-3 MPH	1.4	1.5	0.2	0.9	0.4	1.2	0.6	1.3	0.6	1.0	0.3	1.9	0.9	1.3	1.4	0.7	1.2	1.1	1.0	1.9	1.0	1.5	1.5	2.1
	3-12 MPH	4.2	6.0	5.4	10.2	8.1	15.2	11.7	16.6	10.6	17.3	17.8	23.1	15.7	10.9	11.4	8.2	16.3	14.4	14.9	16.7	9.0	8.7	4.5	6.7
	>12 MPH	3.7	2.7	4.3	3.1	4.8	3.4	6.1	4.6	7.4	3.7	6.0	6.5	4.0	2.8	2.6	2.3	3.8	1.6	4.3	2.9	4.1	2.3	2.8	2.1
	VARIABLE	8.0	11.1	9.6	9.6	4.2	6.3	3.2	6.2	5.4	8.2	6.4	5.4	8.3	12.0	6.5	6.8	4.6	9.8	5.8	8.1	13.7	20.9	11.9	16.5

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 33 FREQUENCY DISTRIBUTION (PERCENT) WIND STATION: CALLAO

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	2.4	1.1	0.6	0.7	0.4	2.0	0.1	1.2	0.4	1.1	0.3	1.8	0.2	0.8	0.3	0.8	0.4	1.9	1.5	2.0	1.5	1.1	2.6	1.2
	3-12 MPH	8.2	4.7	7.2	5.0	8.0	9.0	8.4	10.4	6.6	9.7	13.1	12.3	8.5	6.8	8.3	5.6	15.2	6.2	8.9	5.0	7.8	4.1	7.9	3.7
	>12 MPH	0.4	0.2	2.8	2.0	7.6	2.2	6.5	3.3	4.1	3.6	4.1	4.0	1.6	0.9	0.8	0.6	1.4	0.6	2.5	2.5	2.6	0.3	2.4	0.5
NORTHEAST	0-3 MPH	2.2	1.4	1.6	0.9	0.6	0.9	0.6	1.4	0.6	0.8	1.4	1.9	1.2	0.6	2.8	0.3	0.9	1.0	2.7	1.8	2.8	1.2	3.4	2.0
	3-12 MPH	8.9	2.2	11.2	3.1	14.3	4.6	15.5	6.0	20.3	6.9	22.3	6.6	16.2	4.0	13.9	1.9	20.8	2.8	16.1	1.1	10.7	2.8	7.6	2.8
	>12 MPH	0.3	0.2	1.6	0.6	2.7	0.8	1.6	0.7	3.5	0.9	2.3	1.8	0.5	0.5	0.6	0.1	1.0	0.1	0.7	0.5	0.6	0.0	0.3	0.2
EAST	0-3 MPH	2.4	2.4	1.8	2.0	0.8	0.5	0.6	1.6	0.7	0.9	1.6	1.3	0.8	0.4	0.7	0.4	1.1	1.1	2.3	1.2	1.5	1.0	1.7	0.9
	3-12 MPH	4.4	1.4	4.2	2.8	6.0	1.7	6.7	2.5	9.1	3.5	8.2	2.0	5.2	1.9	6.6	1.5	7.3	1.1	7.3	1.1	7.3	1.4	1.7	1.3
	>12 MPH	0.2	0.0	0.0	0.0	0.2	0.0	0.2	0.0	0.3	0.1	0.0	0.1	0.2	0.4	0.2	0.1	0.1	0.3	0.4	0.0	0.8	0.4	0.3	0.3
SOUTHEAST	0-3 MPH	2.4	3.4	1.4	2.3	0.7	1.1	0.9	2.8	0.7	2.3	1.1	2.8	1.3	1.5	0.5	1.3	0.8	1.4	1.6	1.4	1.8	3.3	1.7	1.9
	3-12 MPH	3.1	2.4	5.8	2.6	4.1	3.2	5.0	3.3	5.5	4.7	4.9	2.3	4.2	4.5	4.3	2.8	2.1	3.1	2.8	1.6	8.1	8.6	2.3	1.5
	>12 MPH	0.1	0.3	0.8	0.9	0.3	0.1	0.4	0.1	0.9	0.3	0.3	0.3	0.7	0.6	0.8	0.4	0.1	0.1	0.4	0.1	2.0	1.7	0.4	0.2
SOUTH	0-3 MPH	5.9	10.3	2.8	3.7	1.0	4.6	1.3	3.5	0.7	2.9	0.5	3.1	0.9	4.3	1.0	2.6	1.6	6.3	2.5	9.1	1.8	5.4	5.9	11.1
	3-12 MPH	17.2	15.8	19.4	24.2	17.1	20.2	13.5	19.6	14.9	20.2	10.2	14.8	20.5	31.8	19.6	27.8	16.2	21.7	13.2	17.5	10.8	10.9	16.4	17.6
	>12 MPH	7.5	5.6	7.5	3.5	8.1	3.4	8.4	5.1	5.6	3.7	6.4	2.1	7.4	3.9	6.4	4.6	5.0	2.0	2.5	1.1	1.5	1.7	6.6	5.9
SOUTHWEST	0-3 MPH	3.5	13.8	1.9	8.9	1.2	5.2	0.8	3.3	0.2	2.5	0.8	2.3	0.4	1.3	0.7	2.0	0.6	3.4	2.5	11.3	1.6	7.6	2.7	9.7
	3-12 MPH	9.2	12.6	10.8	9.3	8.3	12.5	8.9	11.8	11.3	12.3	5.2	8.6	13.7	13.8	12.2	16.3	11.4	17.5	13.2	18.0	13.7	20.6	15.1	19.1
	>12 MPH	4.8	3.6	1.6	0.6	3.1	0.6	4.4	1.2	4.1	0.0	3.0	1.3	3.0	1.9	7.2	3.5	3.5	1.7	3.0	0.6	1.8	1.6	1.5	1.0
WEST	0-3 MPH	1.3	2.2	0.8	1.0	0.1	0.8	0.1	1.0	0.0	0.5	0.3	0.7	0.0	0.6	0.3	1.0	0.0	1.2	0.6	2.1	0.9	1.2	1.2	2.7
	3-12 MPH	0.8	0.2	0.3	0.7	2.8	1.5	1.1	1.3	1.8	2.3	1.6	1.6	1.6	1.4	1.8	2.3	0.9	2.3	1.1	1.6	2.1	1.8	1.4	1.0
	>12 MPH	0.0	0.1	0.0	0.3	0.6	0.1	0.8	0.1	0.8	0.3	0.2	0.5	0.1	0.0	0.3	0.2	0.2	0.0	0.4	0.0	1.6	1.4	0.3	0.0
NORTHWEST	0-3 MPH	1.6	2.1	1.8	1.2	0.1	1.3	0.1	1.8	0.6	1.2	0.3	1.9	0.4	0.6	0.2	1.1	0.3	2.5	0.9	1.7	1.4	0.8	2.1	0.6
	3-12 MPH	3.3	2.2	3.6	4.1	3.4	5.6	5.7	8.6	3.7	4.8	5.7	8.0	1.9	4.9	4.1	6.2	4.0	7.3	3.7	3.4	4.0	2.1	4.1	2.7
	>12 MPH	1.5	1.9	1.4	0.5	2.4	1.4	3.5	1.4	0.5	0.4	1.4	1.4	0.6	0.9	0.5	0.9	0.6	0.5	1.9	1.6	2.0	0.0	1.7	2.9
	VARIABLE	8.9	9.8	8.9	13.3	7.9	17.7	4.8	8.0	3.2	14.3	4.8	16.5	9.0	12.2	7.0	14.7	3.8	11.0	7.5	11.5	9.2	18.9	8.6	11.4

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 34 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: LAST CHANCE (SALT SPRINGS)

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-19	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	3.5	1.6	1.9	1.0	0.8	0.5	0.5	0.1	0.4	0.1	0.3	0.0	0.6	0.6	0.5	0.3	0.8	0.9	1.5	0.8	3.0	0.6	3.4	1.7
	3-12MPH	7.4	3.5	4.9	3.1	6.1	4.1	6.7	4.5	5.1	3.6	6.0	4.8	6.7	3.6	5.4	3.7	6.1	4.4	8.9	3.3	6.1	2.8	6.3	3.9
	>12 MPH	1.1	0.8	2.4	1.6	1.9	1.7	1.2	2.1	5.0	4.4	3.1	5.7	0.8	2.6	0.8	1.2	2.1	2.7	1.8	3.0	3.3	0.9	2.2	1.4
NORTHEAST	0-3 MPH	5.2	0.7	2.2	0.6	1.3	0.5	0.6	0.2	0.3	0.1	0.2	0.7	0.8	0.6	0.7	0.1	1.7	0.5	2.0	0.8	4.9	0.1	4.0	0.2
	3-12MPH	7.1	1.5	9.3	1.3	10.5	1.8	14.2	2.4	10.5	2.0	14.3	2.5	17.3	2.3	14.6	2.2	18.7	1.4	15.8	1.1	10.0	1.1	6.4	1.0
	>12 MPH	0.3	0.0	0.1	0.1	0.5	0.5	1.9	0.1	1.7	0.6	2.0	0.5	2.4	0.1	1.0	0.5	0.9	0.2	0.3	0.1	0.3	0.0	1.3	0.0
EAST	0-3 MPH	3.6	0.7	3.3	0.7	1.5	0.5	0.2	0.8	0.8	0.1	0.1	0.5	1.0	0.4	1.0	0.2	2.8	0.5	1.8	0.5	3.4	0.0	3.3	0.1
	3-12MPH	4.9	0.9	10.9	0.8	15.2	1.8	15.7	2.1	19.5	2.6	25.4	2.0	24.1	3.5	23.4	2.8	25.0	1.7	17.4	0.8	7.3	0.7	4.3	0.2
	>12 MPH	0.3	0.0	0.3	0.0	0.6	0.0	1.6	0.0	3.9	0.4	1.4	0.0	2.9	0.6	2.7	0.3	0.8	0.1	0.2	0.0	0.0	0.0	0.0	0.0
SOUTHEAST	0-3 MPH	2.6	1.0	1.7	1.3	1.5	1.3	0.7	0.5	0.1	0.6	0.5	0.8	0.7	0.8	0.7	0.7	0.8	0.7	1.4	0.7	2.5	0.5	4.0	1.0
	3-12MPH	5.0	1.2	8.5	2.3	6.3	2.6	5.7	4.5	9.0	5.0	7.7	1.9	6.4	5.3	10.9	5.7	7.8	2.2	9.9	2.1	9.6	1.4	5.4	2.3
	>12 MPH	0.4	0.1	0.3	0.1	0.6	0.2	1.8	0.4	1.3	0.6	2.7	0.4	1.3	2.1	2.5	1.1	0.5	0.2	0.5	0.1	0.5	0.0	0.1	0.4
SOUTH	0-3 MPH	2.3	3.2	1.1	3.0	1.3	1.8	0.4	1.5	0.6	0.7	0.1	1.4	0.3	1.7	0.4	2.5	1.3	3.1	0.5	1.6	0.9	2.4	1.8	1.6
	3-12MPH	3.1	5.2	2.9	6.9	3.5	7.2	2.8	6.4	4.3	5.7	4.5	8.3	7.7	15.8	7.6	13.9	5.1	15.0	3.5	4.7	2.2	3.4	2.6	2.5
	>12 MPH	1.4	1.2	1.3	1.1	0.5	1.2	3.5	3.2	2.7	2.5	2.8	2.5	1.3	1.5	2.7	2.8	0.6	1.0	0.3	0.2	0.2	0.2	1.1	2.0
SOUTHWEST	0-3 MPH	3.5	9.3	2.4	6.6	1.1	4.9	1.1	4.2	0.7	1.7	0.4	1.9	0.4	1.9	0.9	2.9	1.0	4.1	2.2	6.3	2.6	7.3	2.1	7.0
	3-12MPH	3.1	7.2	3.9	7.3	8.8	17.2	5.6	16.4	6.5	15.2	3.6	11.2	3.9	9.7	5.4	13.5	4.5	13.3	6.2	19.9	3.4	8.4	4.4	6.4
	>12 MPH	3.3	3.2	3.3	1.9	4.3	3.0	4.1	3.7	2.4	2.7	2.2	1.1	2.2	1.4	2.8	2.6	1.6	1.2	1.3	0.1	0.4	0.2	1.4	1.6
WEST	0-3 MPH	5.1	12.9	3.1	8.9	1.7	6.4	0.9	5.4	0.6	1.7	0.9	1.8	0.8	2.6	1.3	4.1	1.1	5.6	1.5	7.0	3.9	15.5	4.5	10.9
	3-12MPH	4.3	8.1	4.3	6.8	4.9	12.9	6.1	21.0	5.6	21.8	5.3	23.5	4.4	21.8	3.9	20.3	3.4	18.6	4.1	16.7	4.4	13.6	4.5	11.3
	>12 MPH	1.3	0.3	1.1	0.4	4.5	2.3	5.9	2.3	2.8	1.8	2.3	1.9	1.4	1.0	1.1	0.4	1.4	0.6	0.9	0.6	0.5	0.2	1.8	0.5
NORTHWEST	0-3 MPH	4.3	6.9	2.1	3.3	1.0	2.1	0.6	0.8	0.6	0.3	0.6	0.6	1.0	1.2	0.8	1.6	1.1	2.0	1.8	3.4	2.5	4.8	2.9	5.5
	3-12MPH	6.4	7.9	6.3	9.2	6.6	9.7	8.2	11.1	6.7	15.9	6.0	15.9	4.8	11.1	4.0	9.8	4.5	7.6	5.0	11.0	4.1	6.8	4.7	7.0
	>12 MPH	2.1	1.8	5.7	3.5	7.4	4.0	6.9	3.0	6.0	6.2	4.9	7.9	1.2	4.6	1.3	2.3	1.7	2.3	3.3	2.7	2.5	0.6	1.0	1.9
	VARIABLE	17.2	20.6	17.0	27.4	7.6	11.9	3.1	3.1	2.8	3.9	2.5	1.9	5.9	3.4	3.8	4.5	5.0	10.4	7.9	12.4	21.6	28.8	26.5	29.7

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 35 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: BARRO

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	03-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	4.3	4.6	1.9	1.1	1.3	1.7	0.4	1.1	0.7	0.9	0.5	1.7	0.8	0.8	1.4	1.5	3.3	3.3	5.1	4.3	3.7	3.8	5.3	6.9
	3-12 MPH	11.8	12.1	6.5	5.2	7.6	9.5	8.9	10.5	7.8	7.9	10.8	15.1	12.7	8.6	8.8	11.9	15.1	14.2	14.8	14.2	7.9	9.1	8.4	9.4
	>12 MPH	1.7	1.8	3.2	2.8	6.7	5.7	8.5	9.1	8.8	9.6	4.2	5.4	2.5	3.9	2.7	7.0	3.6	6.2	4.6	6.3	2.0	1.6	2.4	3.4
NORTHEAST	0-3 MPH	3.4	4.5	1.4	3.2	0.5	1.4	0.8	1.4	0.5	0.9	0.2	1.0	0.6	1.0	1.2	1.0	3.4	2.2	3.1	2.5	2.7	3.3	4.7	4.8
	3-12 MPH	3.8	4.8	3.2	3.9	4.4	8.7	7.6	10.9	4.5	5.8	3.6	11.6	4.8	9.6	6.1	9.3	8.7	6.6	5.4	4.9	4.1	4.9	3.2	2.5
	>12 MPH	0.6	1.1	0.2	0.5	2.0	2.6	2.5	3.5	1.8	6.0	0.0	1.1	0.3	1.6	1.3	2.2	0.8	1.2	0.2	0.4	0.4	0.2	0.4	0.0
EAST	0-3 MPH	3.2	3.0	0.8	1.3	1.2	0.3	0.8	1.5	0.4	1.2	0.7	1.2	0.6	0.8	0.9	1.3	1.7	1.7	1.3	1.0	2.3	2.5	2.4	2.4
	3-12 MPH	1.3	1.0	3.5	3.7	2.5	3.6	3.4	3.2	3.8	5.5	5.3	9.6	3.2	6.9	5.2	8.1	3.5	4.2	3.5	3.1	1.6	3.0	1.7	1.4
	>12 MPH	0.0	0.1	0.3	0.1	0.4	0.2	0.1	0.0	1.0	1.6	0.5	0.1	0.4	0.4	0.1	0.7	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.0
SOUTHEAST	0-3 MPH	3.7	4.5	3.3	2.8	0.6	1.0	0.8	2.0	0.8	2.8	0.5	1.3	0.3	1.1	1.0	0.7	2.4	1.9	2.3	2.1	4.3	4.7	4.5	5.1
	3-12 MPH	11.5	8.2	10.4	11.1	11.0	6.8	8.0	7.4	9.3	9.6	11.3	5.5	10.5	14.5	9.5	10.2	8.2	8.2	5.9	5.9	10.7	4.7	7.1	4.2
	>12 MPH	1.7	1.0	4.1	3.1	3.2	0.7	4.1	3.9	5.7	4.5	1.8	1.3	5.4	5.5	6.3	5.5	1.7	0.7	2.3	1.7	0.6	0.0	2.3	1.5
SOUTH	0-3 MPH	2.7	4.0	3.6	3.0	1.3	1.5	0.9	1.8	1.1	1.3	0.1	0.6	0.2	1.0	0.8	0.9	1.2	1.2	1.6	1.7	4.9	5.5	5.2	4.8
	3-12 MPH	7.6	8.3	9.9	11.0	10.7	10.3	11.0	10.6	11.9	7.2	9.7	3.7	15.4	12.5	16.9	10.5	7.5	8.3	8.3	7.1	10.3	7.3	10.4	7.7
	>12 MPH	3.9	1.2	8.4	5.0	9.0	4.6	6.4	2.5	7.6	4.3	5.5	2.4	6.4	4.6	5.4	4.6	3.4	2.0	2.9	0.5	1.6	1.3	3.5	2.2
SOUTHWEST	0-3 MPH	3.2	3.8	0.7	0.7	0.6	1.5	0.3	0.4	0.2	0.8	0.2	0.2	0.1	0.5	0.4	0.4	1.0	1.2	0.8	1.3	2.6	4.8	2.8	3.7
	3-12 MPH	3.5	3.3	2.7	2.6	4.4	5.3	4.8	5.4	5.1	2.6	2.3	1.3	5.0	2.8	5.3	3.5	2.3	2.5	2.2	2.7	2.3	3.3	2.4	2.7
	>12 MPH	0.8	0.6	0.7	0.7	3.0	1.7	3.0	2.0	1.4	1.5	0.5	0.5	1.3	1.4	1.1	0.8	1.0	0.5	1.2	0.3	0.4	0.3	0.4	0.6
WEST	0-3 MPH	2.1	3.6	0.5	1.4	0.3	0.6	0.2	0.6	0.4	0.3	0.0	0.2	0.2	0.4	0.4	0.3	1.3	1.4	0.4	1.2	2.7	3.6	2.4	2.1
	3-12 MPH	2.2	3.5	2.1	2.3	3.4	4.1	4.4	3.8	2.9	3.1	3.9	2.7	2.6	1.3	2.5	2.0	2.3	2.3	2.8	4.1	3.6	3.2	1.7	2.5
	>12 MPH	0.4	0.2	1.2	0.4	1.6	2.0	2.4	1.7	0.9	0.9	2.6	2.2	0.8	0.9	0.3	0.5	0.9	0.7	1.0	1.4	3.2	0.6	0.2	0.3
NORTHWEST	0-3 MPH	3.3	2.9	3.2	3.5	0.8	1.0	0.6	0.8	1.1	0.5	0.6	0.6	0.6	0.4	1.2	0.5	2.9	2.7	4.8	3.8	4.3	3.4	4.5	5.1
	3-12 MPH	8.5	6.4	9.2	9.5	8.6	10.2	5.2	5.4	8.7	3.9	14.0	11.0	8.6	5.8	9.2	5.4	11.4	11.5	16.0	15.3	7.2	7.4	6.9	6.6
	>12 MPH	3.8	2.5	5.4	3.7	6.9	6.2	9.1	8.3	6.0	9.9	8.1	13.1	3.5	9.2	3.0	5.5	5.7	7.1	4.9	6.7	2.1	2.6	2.4	1.8
	VARIABLE	10.8	12.8	14.8	18.4	8.0	9.1	5.9	2.2	7.5	8.3	12.9	6.3	13.1	4.4	9.7	5.2	6.3	8.1	4.5	9.6	14.5	19.2	14.8	18.1

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 36 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: CLIVE

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	8.1	8.4	2.8	6.3	1.0	3.4	0.9	4.3	0.5	3.2	0.2	2.3	0.6	2.0	0.7	2.5	1.8	4.9	2.6	6.1	5.3	7.3	5.9	6.9
	3-12 MPH	11.5	9.8	7.2	8.5	14.1	13.8	7.3	13.2	5.3	9.2	7.8	18.1	7.2	9.1	5.1	11.1	10.0	14.7	9.9	9.6	5.8	7.4	8.5	6.6
	>12 MPH	3.0	1.8	3.3	1.2	3.7	3.2	1.7	1.0	1.7	3.0	2.7	4.1	1.1	3.3	0.6	1.5	1.5	1.9	2.3	1.6	1.8	0.4	2.6	0.7
NORTHEAST	0-3 MPH	2.2	4.8	0.9	4.1	0.4	1.8	1.0	2.8	1.0	3.5	0.5	2.9	0.4	2.3	0.2	1.5	1.9	4.9	2.0	6.0	2.8	4.4	2.3	5.3
	3-12 MPH	2.2	2.4	1.6	2.7	1.3	3.3	5.4	8.0	3.7	5.4	2.2	10.9	1.8	7.6	1.5	7.4	4.1	7.8	2.6	6.5	3.6	3.1	1.7	1.0
	>12 MPH	0.2	0.2	0.7	0.1	0.9	0.7	1.7	1.2	0.6	0.7	1.0	1.3	0.3	0.9	0.1	1.6	0.2	0.3	0.5	0.4	0.5	0.0	0.7	0.0
EAST	0-3 MPH	1.6	4.1	1.4	3.7	0.4	3.0	0.6	4.6	1.2	2.9	0.4	1.9	0.2	3.3	0.4	2.7	0.9	4.8	1.8	6.5	2.2	7.1	1.7	5.0
	3-12 MPH	0.7	0.4	1.2	2.1	0.6	1.6	2.0	4.9	2.7	5.8	1.3	7.0	1.5	8.7	1.4	6.0	1.3	4.0	1.2	3.1	0.4	0.9	0.6	0.4
	>12 MPH	0.9	0.0	0.0	0.0	0.5	0.2	0.0	0.2	0.4	0.1	0.0	0.2	0.4	0.3	0.1	0.5	0.0	0.3	0.1	0.1	0.0	0.0	0.0	0.0
SOUTHEAST	0-3 MPH	5.4	8.6	2.6	6.4	1.3	6.3	1.5	6.9	2.6	5.1	0.4	2.4	0.7	4.6	1.1	3.6	1.8	5.9	3.4	8.0	3.7	8.8	4.3	5.9
	3-12 MPH	2.3	3.9	2.9	4.9	2.3	5.7	3.7	5.5	4.9	6.0	2.7	5.2	2.1	9.7	2.2	6.8	2.5	4.8	4.2	6.1	2.5	1.0	2.7	1.9
	>12 MPH	1.7	0.2	0.2	0.0	1.1	0.3	1.5	0.4	1.2	0.6	0.5	0.8	0.5	0.9	0.4	0.5	0.1	0.1	0.0	0.0	0.3	0.4	0.6	1.1
SOUTH	0-3 MPH	5.7	4.8	5.0	3.9	1.5	2.7	1.4	4.7	2.6	4.0	0.5	2.1	1.8	3.5	1.3	4.2	3.5	4.3	3.4	4.6	4.7	3.9	5.7	5.5
	3-12 MPH	9.3	7.3	15.9	12.4	16.2	9.9	11.0	8.4	9.7	8.3	14.0	6.2	16.7	13.1	18.3	16.2	11.8	10.6	10.4	6.2	9.6	3.3	11.8	7.9
	>12 MPH	6.0	2.5	10.2	3.4	7.0	1.8	8.7	1.6	6.2	1.8	7.9	2.8	8.5	3.2	14.3	6.9	5.6	1.9	4.0	0.9	3.6	1.7	5.6	4.4
SOUTHWEST	0-3 MPH	3.6	1.8	2.2	0.9	1.1	0.5	1.7	1.6	2.5	1.7	0.4	1.0	1.1	1.2	0.8	0.8	1.9	1.6	2.1	2.0	2.9	3.0	4.2	1.7
	3-12 MPH	3.1	1.2	3.9	2.1	6.8	2.6	10.5	2.8	11.8	4.8	11.9	1.6	15.9	2.5	13.6	2.8	9.6	1.4	6.6	1.6	6.6	0.7	4.0	1.5
	>12 MPH	0.3	0.2	0.4	0.0	2.3	0.2	2.4	0.3	3.2	1.0	0.9	0.2	1.5	0.4	1.4	0.4	1.1	0.1	0.4	0.1	0.5	0.3	0.5	0.3
WEST	0-3 MPH	3.0	1.7	2.9	1.3	1.5	0.4	1.0	1.5	1.3	1.1	0.9	0.8	1.3	0.9	0.8	0.6	1.7	1.1	2.7	0.6	5.8	2.5	4.2	2.8
	3-12 MPH	1.7	1.0	4.0	2.3	8.0	2.4	9.1	2.1	8.9	2.3	9.4	1.5	11.6	0.9	11.4	0.8	11.4	1.3	6.1	0.8	6.4	0.7	2.2	1.4
	>12 MPH	0.0	0.1	0.5	0.2	3.7	1.0	2.1	0.5	0.8	0.4	0.6	0.1	0.8	0.1	0.5	0.1	0.4	0.1	0.7	0.0	0.3	0.2	0.0	0.2
NORTHWEST	0-3 MPH	5.0	3.6	4.4	3.0	1.0	1.8	1.1	2.1	1.8	3.1	0.5	1.8	0.8	1.6	0.6	1.7	2.3	2.1	5.5	3.1	5.0	5.2	6.0	3.9
	3-12 MPH	4.1	1.6	5.5	3.5	7.6	6.8	13.6	8.0	15.0	8.9	21.9	8.9	14.5	6.1	14.0	3.2	15.5	2.4	16.6	4.9	8.0	3.2	5.1	2.3
	>12 MPH	1.0	0.0	3.9	1.3	6.6	3.8	5.5	2.4	8.4	4.0	5.4	4.3	1.9	1.3	1.2	0.8	2.4	1.1	2.1	2.0	1.7	0.3	0.8	1.3
	VARIABLE	17.4	29.5	16.4	25.9	8.9	23.0	4.9	11.3	2.3	12.9	6.3	11.6	7.0	12.4	8.1	16.0	6.9	17.6	8.9	19.1	16.1	34.3	18.4	32.2

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 37 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: NORTH WIG

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	1.3	1.6	1.4	2.0	0.6	1.6	0.6	1.6	0.8	1.2	0.8	0.9	0.2	0.4	0.4	0.4	0.6	1.1	1.3	1.3	2.6	1.7	3.6	3.7
	3-12MPH	4.2	4.0	4.9	6.9	5.0	8.3	6.5	7.0	6.0	10.0	6.4	10.0	4.5	7.1	1.8	5.3	3.9	8.3	8.9	6.0	8.4	5.6	4.8	4.4
	>12 MPH	3.0	1.1	4.1	1.9	7.1	3.9	3.9	3.0	6.3	4.3	3.0	3.5	0.8	1.4	0.3	1.2	1.1	1.6	1.8	3.5	2.5	1.8	1.3	1.6
NORTHEAST	0-3 MPH	1.1	2.5	0.7	1.8	0.3	1.1	0.6	3.5	0.5	1.4	0.3	1.5	0.1	0.4	0.2	0.6	0.9	2.2	0.9	2.2	1.5	2.6	1.6	2.8
	3-12MPH	1.6	3.3	0.4	2.0	1.2	6.0	2.8	7.6	1.5	8.1	0.7	7.2	0.8	5.8	0.6	5.3	1.4	7.2	1.3	5.5	2.3	4.8	1.5	2.7
	>12 MPH	0.2	0.1	0.5	0.3	1.1	0.7	2.8	3.4	0.7	1.1	0.2	1.3	0.1	1.7	0.4	0.8	0.1	0.3	0.3	0.1	0.2	0.1	0.1	0.0
EAST	0-3 MPH	2.4	6.2	1.2	4.8	0.8	2.6	1.1	4.9	0.3	5.7	0.2	2.5	0.1	1.6	0.2	1.7	1.0	4.6	1.6	6.3	2.2	7.4	2.2	6.5
	3-12MPH	2.7	8.6	1.4	3.6	0.6	6.7	1.3	7.9	1.0	9.9	0.3	9.2	0.5	9.3	0.9	9.6	1.8	14.2	1.4	12.9	2.7	9.8	2.2	11.0
	>12 MPH	0.3	0.8	0.5	1.5	0.6	1.0	0.2	0.4	0.8	1.1	0.1	0.7	1.5	1.5	0.0	1.7	0.1	0.6	0.1	0.8	0.1	0.3	0.4	0.1
SOUTHEAST	0-3 MPH	2.9	7.2	2.8	8.1	1.5	4.1	0.7	3.8	0.7	4.3	0.7	3.7	0.1	2.4	0.7	1.7	1.6	4.7	2.1	8.3	2.7	8.2	3.9	8.9
	3-12MPH	14.8	20.4	13.6	22.4	9.9	23.1	4.3	17.1	4.9	17.1	5.8	19.4	7.0	22.2	9.1	26.2	4.8	20.5	5.7	19.7	8.1	17.1	10.9	14.6
	>12 MPH	20.3	17.9	13.2	14.2	10.7	10.3	4.9	7.1	4.4	6.5	4.2	6.0	6.0	11.0	8.6	4.6	5.4	7.3	6.0	6.4	7.7	9.3	10.8	5.6
SOUTH	0-3 MPH	2.2	2.5	2.7	1.4	1.1	1.0	1.0	1.7	1.1	0.8	0.7	1.6	0.2	0.9	0.7	1.2	0.8	2.0	1.8	2.9	1.8	1.5	2.1	1.5
	3-12MPH	6.8	4.1	6.6	2.1	11.7	5.3	8.5	7.0	8.8	7.3	11.8	8.8	12.5	7.8	18.0	12.9	10.6	8.0	9.5	7.0	6.6	5.3	7.2	6.9
	>12 MPH	3.1	1.9	4.2	0.8	4.9	0.5	8.2	5.0	6.6	2.9	9.1	3.0	5.3	1.9	10.8	5.2	5.3	2.3	4.6	1.5	2.8	1.5	5.5	4.1
SOUTHWEST	0-3 MPH	2.2	0.6	2.8	0.9	0.6	0.2	0.6	0.6	1.1	0.4	1.1	0.3	1.0	0.2	0.9	0.2	1.8	0.3	2.4	0.3	2.4	0.0	2.9	0.4
	3-12MPH	2.2	0.5	2.9	1.0	5.4	1.7	7.1	1.5	11.5	2.0	11.8	1.8	16.0	2.4	15.4	2.1	13.4	0.7	6.9	0.4	3.5	0.3	2.7	0.5
	>12 MPH	0.2	0.1	0.6	0.6	1.2	0.1	1.5	0.4	3.1	0.8	2.2	0.5	1.9	0.6	1.9	0.3	1.4	0.0	0.4	0.1	0.3	0.0	0.2	0.0
WEST	0-3 MPH	2.7	0.3	2.4	0.1	0.7	0.2	1.0	0.2	1.2	0.6	2.8	0.2	1.0	0.2	1.0	0.1	1.6	0.2	3.5	0.1	3.3	1.0	2.6	0.5
	3-12MPH	2.0	0.7	2.2	0.1	4.3	0.7	5.9	0.7	9.1	1.4	8.2	1.0	9.5	0.5	9.6	0.4	10.5	0.6	7.8	0.4	3.7	0.1	2.2	0.5
	>12 MPH	0.1	0.1	0.1	0.1	1.0	0.2	1.0	0.0	0.4	0.3	0.5	0.2	0.3	0.1	0.3	0.1	0.3	0.0	0.1	0.1	0.1	0.1	0.0	0.0
NORTHWEST	0-3 MPH	3.5	1.7	4.6	1.4	1.7	0.9	3.5	1.9	1.1	0.7	2.1	0.4	0.9	0.4	0.8	0.3	2.4	0.5	2.5	0.3	6.3	0.4	6.9	1.9
	3-12MPH	12.3	2.5	10.9	4.5	15.0	4.9	20.1	7.4	16.3	3.6	17.3	4.9	18.2	3.4	11.8	2.1	20.5	1.6	18.6	3.0	12.0	3.8	8.2	2.8
	>12 MPH	1.5	0.7	4.1	1.7	6.5	1.5	6.4	1.2	7.6	2.5	5.2	2.3	3.3	1.9	2.2	0.8	3.0	0.5	3.6	1.6	2.2	0.1	3.5	1.6
	VARIABLE	8.5	10.6	11.3	16.0	6.6	13.6	5.2	5.1	4.1	5.9	4.7	9.1	8.2	14.3	3.5	5.2	5.6	10.6	6.7	9.2	14.0	17.6	12.6	17.6

NORTH	338°-022°	SOUTH	158°-202°
NORTHEAST	023°-067°	SOUTHWEST	203°-247°
EAST	068°-112°	WEST	248°-292°
SOUTHEAST	113°-157°	NORTHWEST	293°-337°

TABLE 38 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: EAST WIG

		JANUARY		FEBRUARY		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		OCTOBER		NOVEMBER		DECEMBER	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	4.7	13.9	3.1	9.8	1.9	8.8	0.7	3.7	0.2	1.9	0.2	1.2	0.6	2.5	0.6	3.4	2.3	9.8	2.8	15.4	3.8	11.5	4.6	11.5
	3-12 MPH	2.7	7.5	4.6	9.8	3.2	13.3	3.1	15.1	1.3	13.2	0.7	16.0	1.2	10.6	1.4	12.9	3.0	20.5	3.9	19.7	3.5	11.1	4.8	6.8
	>12 MPH	0.7	0.7	1.0	2.3	2.9	1.4	3.1	3.1	1.1	0.9	0.3	1.7	0.3	0.5	0.1	1.1	0.2	0.4	0.8	0.8	0.1	0.0	0.1	0.7
NORTHEAST	0-3 MPH	2.8	7.8	1.7	6.4	1.3	4.8	1.1	1.9	0.1	1.4	0.2	1.3	0.9	3.6	1.1	3.3	1.5	5.0	1.0	4.4	1.5	5.0	2.8	6.3
	3-12 MPH	2.3	5.1	0.8	5.9	1.9	12.7	2.5	13.0	2.1	13.5	1.0	11.7	2.4	18.4	1.3	17.0	2.3	14.6	2.0	12.3	2.2	9.6	2.3	5.5
	>12 MPH	0.1	0.0	0.7	0.1	1.0	0.2	0.9	1.0	0.6	2.2	0.4	2.9	0.5	1.4	0.1	1.6	0.3	1.4	0.2	0.2	0.0	0.0	0.0	0.0
EAST	0-3 MPH	7.9	10.6	3.9	6.2	3.3	2.5	1.0	1.9	0.7	0.3	0.7	0.7	2.4	2.7	0.9	1.8	1.6	2.3	1.7	2.3	2.5	3.1	5.5	6.8
	3-12 MPH	7.3	7.4	4.5	8.6	4.5	7.9	2.9	6.1	2.9	8.2	2.8	6.0	7.6	11.8	4.1	14.9	2.0	5.1	3.7	4.8	5.5	6.4	7.6	8.5
	>12 MPH	0.1	0.0	0.0	0.0	0.1	0.2	0.1	0.4	0.2	0.2	0.1	0.2	0.4	0.8	0.1	0.4	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0
SOUTHEAST	0-3 MPH	10.0	2.8	7.6	2.4	3.6	0.5	2.6	0.5	1.8	1.1	1.5	0.8	2.2	1.0	2.3	1.0	2.9	0.8	3.7	0.9	6.6	0.7	7.8	2.0
	3-12 MPH	13.6	5.2	12.9	6.8	10.3	2.1	6.8	4.1	10.6	5.4	9.9	2.6	13.0	6.1	11.7	10.6	6.2	3.3	8.6	3.2	10.2	2.9	11.9	4.3
	>12 MPH	1.8	0.8	1.0	0.7	3.3	0.8	3.0	1.4	3.5	0.7	2.1	1.0	1.7	0.6	2.9	1.6	0.9	0.3	1.2	0.3	1.2	0.2	1.0	1.0
SOUTH	0-3 MPH	4.5	0.8	5.2	0.4	2.9	0.3	2.6	0.5	1.3	0.1	1.4	0.2	3.7	0.5	1.9	0.1	6.2	0.4	5.7	0.1	6.0	0.1	5.2	0.8
	3-12 MPH	3.6	0.9	7.8	0.5	8.6	0.5	7.4	2.4	10.4	2.4	12.4	2.3	14.7	2.7	16.1	2.9	10.4	1.8	8.7	1.3	4.2	0.7	2.0	1.2
	>12 MPH	0.9	0.2	2.5	0.4	3.8	0.7	4.3	1.0	7.2	1.5	8.0	2.3	5.9	0.5	8.9	2.1	4.6	0.7	2.5	0.1	2.1	0.2	0.3	0.7
SOUTHWEST	0-3 MPH	1.5	0.8	1.1	0.1	1.5	0.3	1.0	0.2	0.4	0.1	0.3	0.2	1.0	0.2	0.9	0.3	2.0	0.2	2.6	0.4	1.6	0.5	2.1	0.2
	3-12 MPH	1.2	0.6	1.9	0.5	4.7	0.7	7.1	1.6	7.0	1.1	10.5	1.1	12.6	1.5	12.4	1.4	12.3	0.7	7.2	0.8	2.2	0.4	0.8	0.2
	>12 MPH	0.0	0.1	0.4	0.1	0.8	0.3	1.5	0.3	1.6	0.5	1.7	0.5	1.2	0.1	3.1	0.2	1.2	0.1	0.7	0.1	0.0	0.1	0.0	0.0
WEST	0-3 MPH	0.9	0.8	0.9	0.4	0.4	0.5	0.7	0.3	0.4	0.2	0.2	0.1	0.7	1.0	0.2	0.2	0.9	0.4	1.1	0.0	0.7	0.3	1.0	0.4
	3-12 MPH	1.1	0.7	2.7	0.7	5.8	2.4	5.7	1.6	5.2	1.6	8.7	1.8	9.6	1.7	8.2	1.0	7.7	0.6	5.5	0.9	2.9	0.6	1.5	0.7
	>12 MPH	0.0	0.1	0.1	0.1	1.3	0.3	0.9	0.4	0.7	0.3	1.6	0.5	0.5	0.1	0.2	0.1	0.4	0.1	0.1	0.0	0.2	0.0	0.3	0.2
NORTHWEST	0-3 MPH	3.4	5.0	1.7	5.9	1.5	3.9	0.6	2.5	0.1	2.1	0.7	2.0	0.3	2.9	0.5	1.0	0.8	2.8	2.9	4.4	3.3	7.4	4.6	6.6
	3-12 MPH	11.6	8.3	12.9	9.5	12.7	16.5	17.3	17.8	16.1	16.6	16.7	19.3	7.3	12.2	2.0	6.1	20.1	11.5	19.7	13.9	16.8	17.3	10.8	12.6
	>12 MPH	1.6	0.9	4.3	3.1	10.8	3.5	15.7	5.0	16.4	7.8	9.6	6.2	1.3	1.3	3.6	1.3	2.9	0.8	4.2	3.5	4.7	2.8	5.5	2.4
	VARIABLE	15.1	19.4	14.6	20.0	8.2	15.2	6.6	14.7	8.0	16.7	8.0	17.6	7.9	15.3	7.1	15.1	7.1	14.3	9.8	10.1	18.3	18.9	17.3	20.4

NORTH	338°–022°	SOUTH	158°–202°
NORTHEAST	023°–067°	SOUTHWEST	203°–247°
EAST	068°–112°	WEST	248°–292°
SOUTHEAST	113°–157°	NORTHWEST	293°–337°

TABLE 39 FREQUENCY DISTRIBUTION (PERCENT) WINDS STATION: DITTO TECH. CENTER

		JAN.		FEB.		MARCH		APRIL		MAY		JUNE		JULY		AUGUST		SEPT.		OCT.		NOV.		DEC.	
	HRS	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05	06-18	19-05
NORTH	0-3 MPH	1.6	1.3	1.5	1.8	0.7	1.6	0.9	2.3	0.5	1.4	0.5	1.4	0.4	2.1	0.9	1.5	0.9	1.8	1.3	1.1	1.4	1.1	2.2	1.7
	4-8 MPH	1.3	1.4	2.1	3.0	1.6	4.2	2.5	3.9	2.1	3.9	1.6	4.1	1.2	3.2	1.2	2.8	1.8	3.7	1.7	3.3	2.0	2.0	0.8	1.2
	9-15 MPH	1.5	1.5	1.4	1.4	4.2	2.2	3.3	4.3	1.6	3.9	2.2	6.6	0.4	4.3	0.7	2.6	1.7	3.1	3.1	3.1	2.2	1.8	0.9	0.9
	> 15 MPH	0.7	1.5	0.5	0.2	2.8	0.9	2.0	1.3	0.7	1.5	1.4	2.4	0.1	1.3	0.1	1.0	0.3	0.8	1.4	1.1	0.5	0.3	0.1	0.0
NORTH EAST	0-3 MPH	1.1	1.9	1.1	2.4	0.7	1.3	0.8	2.1	0.5	1.6	0.9	2.3	0.9	2.3	1.0	2.7	1.4	2.8	1.1	1.6	1.3	1.3	2.4	2.4
	4-8 MPH	0.5	0.3	1.2	1.3	0.5	1.9	1.2	2.6	1.2	3.0	1.0	3.6	1.0	3.9	0.8	3.3	0.5	2.5	0.5	1.3	0.5	0.6	0.8	0.5
	9-15 MPH	0.1	0.2	0.2	0.2	0.4	0.5	0.3	0.6	0.8	1.2	0.6	1.8	0.3	1.0	0.2	0.9	0.4	0.3	0.3	0.3	0.1	0.3	0.0	0.0
	> 15 MPH	0.1	0.3	0.1	0.0	0.4	0.1	0.2	0.3	0.1	0.2	0.1	0.2	0.1	0.8	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0
EAST	0-3 MPH	11.7	18.8	8.5	17.0	6.9	14.2	5.7	14.4	5.7	14.8	4.0	11.8	4.1	12.7	5.7	13.3	7.0	16.8	7.3	18.6	9.5	23.4	9.7	18.4
	4-8 MPH	1.3	2.9	1.6	3.7	1.9	4.3	1.6	4.9	1.9	7.4	1.6	5.7	2.3	8.4	3.0	10.6	2.9	8.6	2.6	5.0	2.2	4.4	2.0	3.0
	9-15 MPH	0.1	0.2	0.3	0.1	0.3	0.2	0.0	0.0	0.7	0.8	0.2	0.8	0.2	1.1	0.7	1.8	0.4	0.8	0.2	0.5	0.2	0.3	0.0	0.1
	> 15 MPH	0.0	0.1	0.4	0.7	0.1	0.2	0.2	0.7	0.1	0.0	0.0	0.1	0.5	1.0	0.1	0.3	0.5	0.9	0.1	0.0	0.2	0.3	0.0	0.0
SOUTH EAST	0-3 MPH	9.8	12.7	7.2	11.5	7.0	16.2	4.8	12.4	5.0	10.7	3.4	9.6	2.6	8.0	3.9	8.5	3.8	12.5	4.7	15.3	3.5	12.1	8.4	14.5
	4-8 MPH	4.5	5.0	4.9	4.5	4.7	7.1	3.1	4.2	3.5	4.8	3.4	4.8	5.2	6.4	5.2	8.2	4.0	8.0	3.9	4.7	3.8	4.4	4.5	3.7
	9-15 MPH	1.4	0.9	2.6	1.2	2.0	1.4	2.7	1.6	2.5	1.9	1.7	1.1	2.1	1.1	4.7	3.4	3.6	2.1	2.8	1.7	2.3	1.3	2.8	1.4
	> 15 MPH	0.4	0.5	1.2	0.7	0.9	0.6	1.1	0.8	0.8	0.4	0.2	0.1	0.6	0.8	0.8	0.7	1.0	0.5	0.5	0.0	1.0	0.2	0.2	0.1
SOUTH	0-3 MPH	1.9	3.5	3.2	2.7	1.7	2.9	2.4	2.0	1.3	2.9	1.6	1.4	1.7	2.3	1.4	3.0	1.9	3.0	1.6	2.7	1.8	2.6	3.2	2.8
	4-8 MPH	3.4	1.5	4.4	3.8	5.5	3.6	4.5	2.2	3.7	3.3	4.0	3.6	5.4	4.7	7.8	6.0	4.1	3.1	4.2	2.6	3.2	1.2	2.9	1.1
	9-15 MPH	4.3	1.9	5.0	3.5	9.3	3.8	4.1	2.9	6.4	4.0	7.3	4.0	9.0	4.5	8.5	5.5	6.8	2.7	5.6	3.0	4.6	2.7	3.7	1.8
	> 15 MPH	1.1	1.0	2.9	1.4	4.3	1.2	2.5	0.9	3.6	1.3	2.4	0.6	2.5	0.8	1.2	0.7	1.4	0.2	3.1	0.8	1.3	0.9	0.8	0.7
SOUTH WEST	0-3 MPH	1.6	2.1	1.6	1.4	1.1	1.3	1.1	1.1	1.6	1.7	1.6	1.8	1.9	1.9	1.2	0.8	1.9	1.8	2.0	1.5	2.2	1.5	2.5	3.4
	4-8 MPH	1.1	1.0	0.8	0.4	1.1	0.8	2.1	0.6	2.0	0.8	2.8	1.3	4.3	1.8	3.9	1.4	2.9	0.6	1.6	0.7	1.1	0.3	0.4	0.3
	9-15 MPH	0.0	0.0	0.2	0.1	0.2	0.2	0.9	0.4	1.6	0.4	1.9	0.8	2.2	0.7	2.2	0.6	0.9	0.2	0.3	0.2	0.1	0.2	0.1	0.0
	> 15 MPH	0.0	0.0	0.0	0.1	0.0	0.0	0.6	0.2	0.4	0.0	0.7	0.3	0.7	0.2	0.5	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WEST	0-3 MPH	6.3	2.5	3.4	2.2	2.8	2.0	2.6	1.9	3.7	2.1	3.4	1.8	3.2	1.8	3.5	1.0	3.7	1.2	5.1	2.7	7.0	2.2	7.5	2.7
	4-8 MPH	4.7	1.0	2.9	1.2	4.8	1.2	6.8	1.9	8.4	2.2	9.1	1.9	8.6	1.4	9.3	1.6	9.8	0.8	10.2	0.8	5.7	1.6	3.4	0.5
	9-15 MPH	0.5	0.1	1.1	0.4	1.1	0.3	2.7	0.8	2.4	1.1	2.9	0.7	2.0	0.8	1.8	0.4	2.5	0.1	2.2	0.5	1.2	0.3	0.4	0.3
	> 15 MPH	0.3	0.0	0.0	0.0	0.4	0.3	0.8	0.6	0.3	0.2	0.6	0.0	0.5	0.2	0.4	0.0	0.4	0.1	0.1	0.0	0.2	0.0	0.3	0.0
NORTH WEST	0-3 MPH	6.6	2.5	4.0	3.2	2.4	3.3	1.9	2.5	2.6	2.2	2.2	2.6	2.9	1.5	2.7	1.6	3.3	2.2	4.0	2.3	5.3	1.7	6.9	3.1
	4-8 MPH	3.3	1.4	3.7	1.5	5.6	1.3	6.0	4.8	7.3	2.9	8.6	2.8	9.7	3.3	8.4	1.5	7.6	2.7	7.7	2.4	5.1	1.9	2.8	1.2
	9-15 MPH	2.5	0.7	3.2	1.5	4.8	1.8	8.4	3.7	4.8	2.2	5.5	2.6	4.1	1.3	1.8	0.7	2.3	0.8	2.8	1.4	3.0	1.2	1.5	0.9
	> 15 MPH	0.7	0.1	1.1	0.4	1.2	0.8	2.3	1.0	1.0	1.1	0.6	0.6	0.3	0.3	0.3	0.4	1.3	0.3	0.8	0.1	0.7	0.6	0.5	0.4
VARIABLE		25.4	26.3	24.7	26.6	16.4	17.3	19.9	17.0	21.2	14.1	23.0	16.9	19.0	15.1	16.1	13.2	18.6	14.9	17.0	20.3	22.8	27.3	28.4	30.9

NORTH	338° - 022°	SOUTH	158° - 202°
NORTHEAST	023° - 067°	SOUTHWEST	203° - 247°
EAST	068° - 112°	WEST	248° - 292°
SOUTHEAST	113° - 157°	NORTHWEST	293° - 337°

APPENDIX IV. REFERENCES

1. Topographic Maps No's NK 12-2 Driggs, NK 12-7 Brigham City, NK 12-8 Ogden, NK 12-10 Tooele, NK 12-11 Salt Lake City, NJ 12-1 Delta, U.S. Army Map Service. Washington, D.C.

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3. V.A. Finch et al, "Physical Elements of Geography", McGraw and Hill, New York, New York, 1957.

4. Climatological Report No. 2, D.L. Shearer, Meteorological Division, March 1956.

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13. ABSTRACT

The data contained in this document gives a brief description of the Dugway Proving Ground, Utah surrounding terrain and vegetation, and a summary of the various climatic elements. Climatological data were compiled from records maintained at the U.S. Air Force Weather Station, Dugway Proving Ground. Wind direction and speed were recorded at selected locations utilizing mobile meteorological stations. The data for the climatological report were recorded at varying time intervals from 1943 to 1965.

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4. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
climatology						
wind direction						
wind speed						
mobile meteorological stations						
vegetation						
terrain						
Great Salt Lake Desert						
Salt flats						
sand dunes						
atmospheric diffusion						
topography						
mountains						
alluvial slope						
hills						
temperature gradient						
polar air mass						
weather						
visibility						
precipitation						
cloudiness						
temperature						
relative humidity						